

NEW WORLDS SCIENCE FICTION

No. 55

2/-



NEW WORLDS

— PROFILES —

LAN WRIGHT



Readers of detective fiction with long memories will remember the webwork plots of Harry Stephen Keeler. Lan Wright tries such a plot style in this issue and says, "There are two ways of writing a story—one is to plan the whole thing beforehand so that it is merely a case of putting it on paper; the other is to start writing . . .

"'And Earthly Power' comes under the second category. It started with one sentence and kept growing like a person knitting a sock who cannot turn a heel. When in doubt I ended a chapter and started a fresh one with a new character—and the result surprised me. I found that it was fascinating to write this way and the end result was much more satisfying than if it had all been planned at the start.

"The title bothered me and I eventually fell back on an old standby—Shakespeare. It's surprising how useful the Old Bard can still be!"



JAMES WHITE

Obtaining information about his writings from author James White is like trying to get blood from a stone as he is of the shy and retiring type by nature. Concerning his story in this issue, however, he does say, "The initial idea for 'Patrol' came one afternoon last summer while I was in the garden trying to read. I say 'trying' because of the unremitting efforts of some winged insect of indeterminate species to gain access to such places as my nostrils, ears, and even the space between my spectacles. It was too agile to hit and as it persisted in its attack on myself I was eventually driven to seek refuge indoors.

"Afterwards I began to wonder what a truly insect invasion would be like—what weapons would it render obsolete and what the logistics of such a war would entail."

Well, at least, that's one way of finding a plot!

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NEW WORLDS SCIENCE FICTION

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Congratulations . . .

There are always a variety of subjects upon which an editor can write an editorial although sometimes it is somewhat difficult to decide which theme will be the most popular—or whether the subject which has been held over will be out-of-date before it does appear in print. I didn't have a great deal of difficulty in deciding upon this month's editorial, however, for birthdays only come once a year and nobody likes to be late with their compliments upon such an occasion.

In this case, January sees the fourth birthday of Britain's own Science Fiction Book Club with a very fine book as its publishing choice—Judith Merrill's anthology *Beyond The Barriers Of Time And Space*—and I feel that public acclaim concerning the excellent progress the Club has made in the past three years is long overdue.

Despite the fact that I am on the Committee which chooses the six titles a year to be published, it still came as something of a surprise to look along my bookshelf and see the number of outstanding titles the Club has already produced, foremost among them being most of the International Fantasy Award winners and runners-up. Particularly prominent are Stewart's *Earth Abides*, Vonnegut's *Player Piano*, Bester's *Demolished Man*, Sturgeon's *More Than Human*, and Pangborn's *A Mirror For Observers*. There have been two Bradbury novels, *The Martian Chronicles* and *Fahrenheit 451*, two Stapledon epics which are now priceless volumes—*Last And First Men* and *Odd John*—while the list of other authors reads almost like a *Who's Who* of science fiction writers: Kuttner, Clarke, Asimov, Wyndham, van Vogt, McIntosh, Wilson Tucker and E. C. Tubb (both the last-named with material originally published in *New Worlds*) and other writers and noted anthologists.

Apart from the first-class titles offered, what has made the S.-F. Book Club so successful? Basically, it is the loyalty of its reader-members and the interest they have taken in suggesting titles, and, science fiction readers in general being somewhat above the average in intelligence (this statement isn't by any means mere theory) it is not surprising that the Club has such an enthusiastic following.

In general, 1957 is going to be a very poor year for new science fiction books, as few of the general publishers are listing any titles at all and it is now quite evident that there is a considerable recession

in progress which will tend to turn novelists away from the field to seek other more remunerative themes. Conversely, magazine sales are steadily rising and it would appear that science fiction is swinging back to its original medium. However, with fewer general s-f books on sale it may well be that the S-F Book Club will increase its membership still further during the next twelve months as there are sufficient titles in hand to carry the Club on for several years if necessary.

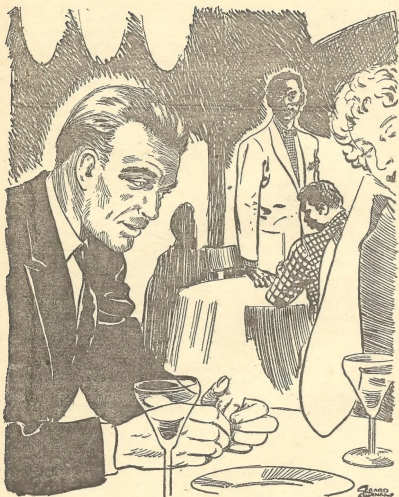
One of the main policies of the Club has been to publish each year the best of the new titles from the general publishers—the dearth of new titles will now bring forward the backlog of outstanding novels which has been held over. There is a big difference in the principles of Book Club publishing in Great Britain and that of the USA—in Britain, Book Club editions cannot be published earlier than one year after the original regular edition. Also, Book Club publishers cannot offer free books or any other form of inducement as a means of increasing their membership. Whereas, in America, all kinds of free offers are put forward to attract new members.

Many book dealers in USA maintain that the Doubleday Science Fiction Book Club was responsible for killing the general science fiction book market in their country by offering regular editions of science fiction books published by leading houses at give-away prices. Often, it seemed, such volumes were offered free to prospective Book Club members almost before they had been on sale through the normal retail channels. While this is a debateable point—it may well have been that American publishers found exactly the same position a year ago as British publishers are now finding, that science fiction novels do not sell as well as general novels—it is a comforting thought that such an eventuality cannot happen in this country owing to the conditions laid down by the Publishers' Association in relation to Book Club editions.

In that factor lies the strength of the S-F Book Club, plus the extremely low cost of each volume for those who want to build a small inexpensive library of outstanding novels. For that reason also I would like to wish the Club many happy returns of the day.

John Carnell

* For further details write direct to the Science Fiction Book Club,
1 Tavistock Chambers, Bloomsbury Way, London, W.C.1.



AND EARTHLY POWER . . .

. . . . doth then show likest God's when mercy season's justice — to quote Portia from The Merchant of Venice, and although it seems a far cry from the days of Shakespeare to the colonisation of the stars the quotation will be just as apt when the time comes.

By Lan Wright

Illustrated by QUINN

I

Laraby stood on the hillside with the darkness of night like a cloak around him, and looked down at the lights of the city spreading across the valley below him.

Above him, fading swiftly, the low hum of the copter from which he had landed mounted into the black sky. He wrapped his night cloak closer around him and moved away down the gentle slope of the hill towards the lighted roadway at the foot of the low ridge.

The tension that had lived with him since he left Earth two weeks previously, slipped away. Now that his destination was finally reached he felt that his task had really begun. The long flight to this, Xenon, third planet of the sun Kruger 60, had been irksome and boring.

During the flight he'd had a job to do—and yet no job to do. It was like being suspended between an exciting past and a dangerous future. He could not plan for he had no knowledge of local conditions. He dare not ask questions of his fellow passengers or the crew since, by such enquiry, he might draw attention to himself. And attention was the last thing he wanted to attract.

Laraby felt a pang of anger at the looseness of the whole business.

Serenaga, the Bureau Chief, had been singularly unhelpful at the one brief meeting before Laraby left Earth. He had merely shrugged his shoulders and smiled his dark, saturnine smile. There had been no apology as he said, "That's all I can tell you, Laraby. The conference is to be held on Delphic Two in five weeks time. Within the next three weeks a man named Vincent Audus will be on Xenon. It will take you two weeks to get to Xenon and that will leave you about a week to get rid of Audus. How you do it we will leave to you. You will be the man on the spot and the only order I can give you is that Vincent Audus must die within three weeks."

And that was all.

The only clue to the importance of the task was the fact that the Bureau was usually most meticulous in all its details. This assignment had a flavour of panic about it that didn't suit Laraby's tidy mind. He liked to have every detail sewn up right down to the last grain of dust, and here he was working blind, with only a name to guide him—the name of Vincent Audus.

He reached the roadway and turned left towards the city of Xenon. It was after midnight local time, and traffic was almost nil which suited him admirably. It was desirable that he appear unnoticed to accomplish his mission; there should be no indication of whence he had come or who he represented. He had landed on Xenon Four and flown to Xenon Three by a private vessel. His landing at the spaceport on the other side of the planet had been unremarkable because of his disguise, and no one had seen his departure by the copter. Another man with his papers, his clothes and his appearance would return to Xenon Four tomorrow, and Laraby would be free to operate as he wished.

At least, he thought, the local arrangements had been all he could have wanted.

The first buildings began to show before him, and he slowed his pace, eyes probing anxiously for any late stroller or Law Officer. There were none.

His soft shoes made no sound on the pavements and he penetrated into the city by way of narrow side streets and alleys. Twice he turned aside to avoid approaching Terrans, but the few native Xenians

he saw did not bother him. He knew that they could not tell one human from another any more than he could single out one of them from a crowd. He walked steadily for half an hour, and at last he stood on one of the wide main streets close to the city centre.

As far as anyone could tell he had appeared out of thin air.

Laraby spent the rest of the short night hours roaming the streets and avoiding contact with Law Officers. He snatched odd moments of rest in dark corners, for he dare not go to an hotel at such an hour and with no luggage. He ate breakfast early in a small cafe, and as soon as the shops opened he bought a light case and a selection of clothing. He spaced his purchases carefully so that he did not become remarkable for the amount of money he spent in any one shop. By mid-day he was relaxing in a small room at the rear of a solid, unpretentious hotel.

He spent the rest of the day getting to know the layout of Xenon City. He visited the local library and turned up maps and records to help him. He identified the hill on which he had landed, and traced several alternative routes to it from the city. The copter would pick him up any time he wanted it, but it wouldn't wait if he lost his way and was late at the rendezvous.

Next, he turned to people within the city. There were about a hundred and fifty thousand of them, and three-quarters of them were colonists of Terran origin. The balance was made up of native Xenians who had been persuaded, for a short time, to live and work in the city at the more menial tasks.

Before Terran colonisation the small, slim Xenians had been nomadic and entirely agricultural in their way of living. They were a mild, unhurried race with large, round, lidless eyes, and a hard almost birdlike beak. Apart from these details they were humanoid in appearance and covered with a soft downy fur that varied in shade and colour from one to another to as great a degree as did the facial characteristics of individual humans. They were parthenogenetic, and in that one fact lay the whole basis of their outlook and way of life.

Individual combat for the possession of the female of the species was unknown to them. Lacking that factor, possession as a whole was something they didn't understand, and war and the consequences of war were mysteries they had never uncovered.

As a race they would have been easy conquest for the colonial settlement teams from Earth, but they had been saved from slavery and exploitation by Earth's own law—the Colonial Exploitation bill which protected all subject races.

The balance of the population of Xenon City was Terran, and almost all of them dealt with the administrative side of the thousands

of mines which scattered the planet, and were the reason for its wealth and importance. In the mines too, the native Xenians worked as and when they wanted to. They formed an ever-shifting, ever-changing nucleus of the labour force necessary to operate the mines. They came from their tribes when the mood took them and they worked for a few weeks or months until the novelty wore off, then they went back to their nomadic existence.

As he read up the local history Laraby realised that from a political aspect the planet could be a trouble spot. No fewer than seven galactic mining corporations had offices in Xenon City, and rivalry between them could lead to almost any sort of intrigue imaginable. He wondered if the mysterious Mr. Audus was involved in some sort of local chicanery which made his removal from the scene so necessary. His wonder changed to grim certainty as, under the largest corporation, Universal Minerals, he found listed the name of V. M. Audus, General Director.

Audus was a slim man in his early fifties. He dressed neatly and soberly, and his clothes went well with his smooth, grey hair and lean tanned cheeks. He looked what he was—a business man who had come up the hard way. He was a native of Xenon; he had lived there all his life save for short visits to Earth and other centres of Galactic trade.

His career with Universal Minerals had begun as soon as he left college. He started as a field engineer and graduated rapidly into the ranks of the Corporation's administrators. Now, he was the local agent and a general director. He had a private office of sumptuous design, a loving and lovely wife, and a large modern house on the outskirts of Xenon City. With all these things went the privilege of a lunch period of his own making—usually about two hours.

It was a period of time which, on this particular day he was to regret taking.

He settled himself behind his desk and stubbed the butt of his after-lunch cigar into the ashtray at his side. A touch on the buzzer at the side of his desk brought his secretary in from the outer office.

"Anything while I was out, Nicol?" Audus asked.

The man shook his head. "Nothing important, sir. Oh—one thing. A man called about an hour ago and asked to speak to Mister Vincent Audus."

The colour faded from Audus' cheeks and he tensed in his chair.

"What was that?" he rasped hoarsely.

Nicol's domed forehead creased into a puzzled frown. "He asked to speak to Mister Vincent Audus—"

"What did you tell him?"

"Why, I—I told him he must mean Mister Victor Audus—"

"You told him that?"

"Well, yes, of course, sir." Nicol was clearly disturbed by his employer's reaction. "Did I do wrong—?"

"No, no." Audus waved him to silence, and some of the colour returned to his ashen cheeks. "What did he say when you told him that?"

"Nothing. He looked rather surprised and said it didn't matter. Then he left."

"Who was he? Did he leave any name, any message, anything you could trace him by?"

"No, sir. Nothing. He just thanked me and left."

Audus relaxed slightly in his chair. The shock was passing now, and he felt slight annoyance that such an incident should upset him to so great a degree. He asked, "Would you know him again if you saw him?"

Nicol nodded. "Yes, sir, I'm sure I would."

"Go down to the Security Division, see Devlin and tell him all that you told me. Give him all you can about this man, description, height, age—everything. I'll ring Devlin and tell him you're on the way."

Nicol's face bore a look of blank astonishment. "But, sir. I—"

"And another thing," Audus leaned towards him, "once you've done that, Nicol, forget all about it. Understand? If you want to work for me in future, forget all about it."

As the door closed behind the secretary Audus lifted the phone and called the Security Division.

The face of Devlin, the Division's head swam on to the small screen, and registered some surprise as he noted Audus' taut, tense expression.

"I'm sending Nicol down to see you, Devlin. He's going to tell you about a man who called here a while ago. He'll be in Xenon City somewhere, but he might try to leave. I want you to find him."

"Who is he?" demanded Devlin, breaking in on Audus' flood of instruction.

"I don't know, but that isn't important. Just find him. I don't care how you do it or what it costs—just find him, and fix it so I can talk to him."

Audus broke the connection before Devlin could protest further. He sat back in his chair, still shaken by the unexpectedness of what had happened. It was possible, he supposed, that the stranger had

made a mistake over his first name—Vincent instead of Victor—but, if so, why the surprise and the hurried departure? From somewhere out of the past a ghost was rising that Audus had all but forgotten. His twin brother hadn't been on Xenon in nearly twenty years—and now, a stranger had come and been surprised because he was not there. Victor Audus badly wanted to know why!

II

Laraby cursed to himself as he left the Corporation building. His very first move had been a mistake, and one that could be traced back to Serenaga in his office on Earth. Laraby could, if he wished, assume that Serenaga had made a mistake when he gave the name of Vincent Audus; but that was too easy an answer. If Serenaga had said Vincent then Vincent he had meant. Laraby recalled the secretary's surprised correction, "No, sir. You must mean Mister Victor Audus. The vee stands for Victor not Vincent."

It had been Laraby's intention to pass himself off as a mining engineer stopping briefly on Xenon and anxious to see something of the planet's mineral exploitation. That way he could get to know Audus on a business footing, and insinuate himself into the man's acquaintance for a few days before doing his job and getting out. Doing it that way would have meant leaving some sort of trail, but that didn't worry him. By the time the local authorities had him pin-pointed he would be off the planet and out of the system entirely.

And then, at the first obstacle, his plan had been washed out.

He could have stayed and brazened it out, but the possibility that there might be two people named V. Audus had made him act hastily and leave. He didn't doubt but that the secretary would relay the fact of his odd call to Victor Audus. And if he did . . .

Slowly, another idea began to form in Laraby's mind. He had a day or so to spare—if necessary, three or four. In that time, if he acted openly, the mountain might come to Mohammed.

He went back to his hotel and rested until early evening.

The night life of Xenon City was restricted to a dozen theatres, four night clubs, and several dozen bars and saloons of various types and degrees of social standing. Laraby left his hotel dressed suitably for the better class of saloon and the night clubs.

He chose an ornate saloon not far from the hotel. He went in, sat down at the bar and ordered a drink. The bartender served him and Laraby gave him a note and the invitation, "Have one yourself."

The man smiled his thanks. "Later, sir, if I may. I've got all evening ahead of me."

"Sure, keep the change. Say, does Victor Audus ever come in here?"

"Audus? The Mayor?" The man looked at him incredulously. "You must be new in town. Audus never sinks lower than the 'Pearl Drop.'"

"The Pearl Drop! That's a night club, isn't it?"

"The best. Costs five credits just to get in the door." The barman turned away as another customer beckoned, but Laraby felt that his money had been well spent.

So Audus was the mayor of Xenon City! Which put him in the top rank as a local politician. Once more Laraby had the thought that perhaps Serenaga had made a mistake over the name. Angrily he put it aside. It wasn't his job to guess; he'd been given a name that had to be erased from the lists of the living; but it wasn't that of Victor Audus.

When the barman was free again Laraby beckoned him over.

"Did you ever hear of another man named Audus? Vincent Audus?"

The man frowned in thought and then shook his head. "Not to remember. Why?"

Laraby shrugged in apparent disinterest. "No reason in particular. I heard that Victor had a cousin or a brother of that name."

"Public Records would tell you," said the barman. "Audus was born here. His family was one of the original settlers on the planet."

Yes, thought Laraby, and an open enquiry at the Records Office would put him right out in the open. He swallowed the rest of his drink and thanked the barman before leaving.

It was after eight by now, and the 'Pearl Drop' would be well into its evening entertainment. He called a cab and got the driver to put him down outside the ornate doors of the club. The exterior was designed to live up to the name. The whole front of the 'Pearl Drop' was a mass of glowing, iridescent light, circular in shape, and inside, behind the pearl-shaped facade, all was soft lights, softer carpets and luxurious furnishings. The small dance floor had a stage at the back on which a five-piece band played softly, and outside the bright area of the dance floor the tables melted away in the intimate gloom, each illuminated by its own small lamp.

Laraby was shown to a small table well away from the centre floor, a position which suited him admirably. He ordered a bottle of wine and sat down to take in the scene around him. It might have been

the 'Stork Club' or the 'Blue Room' back on Earth. Even the people looked the same, the men in traditional evening dress, the women as radiant as birds and as beautifully vacant.

At his lifted finger a waiter came to his table. "Has Mister Audus, the Mayor, come in yet?"

"Yes, sir." The man pointed discreetly. "The table on the far side of the floor, next to the colonnade."

Laraby picked out the group of three men and three women. He nodded. "Thank you, I see it. Which is Mister Audus?"

He could detect the man's surprise as he answered, "The grey-haired gentleman, sir, next to the lady in the black dress. She is his wife."

Audus faced Laraby as he sat there, and the light from the floor reflected enough to show him clearly. Laraby knew he would remember Audus when next they met.

He stayed at the Club for another hour and watched the floor show. It was soon after nine-thirty when he left, and in the entrance hall of the Club he entered a public phone booth and turned up the business portion of the directory. Under the heading of Enquiry Agents he found one name, that of Richard Davos, and he grinned wryly as he noted that Davos was also shown as a commission agent. Even on a world such as Xenon it seemed that people found something on which to gamble.

From the girl at the reception desk he begged an envelope on which he wrote the address of Richard Davos. Inside it he placed a hundred credit note. And then he left the Club.

He posted the envelope on his way back to the hotel, and by ten-thirty he was sleeping soundly to make up for the long night of wakefulness he had suffered before.

Richard Davos frowned at the hundred credit note that lay on the desk before him. For the third time he looked inside the envelope to make sure there was no letter. The writing on the front was unfamiliar too, and he could think of no one who would be stupid enough to send him such a sum without at least saying who it was from.

The small, yellow-furred Xenian who kept his office tidy, clattered noisily in one corner, and Davos whistled at it to attract its attention. He waved a hand in vague dismissal and the creature twittered briefly before leaving. Yellow-fur had been with him almost two months. Davos sighed. Any time now it would decide it had had enough of city life and go back to the rolling plains and the woods from which it had come—and Davos would have to find a replacement or clean up the office himself.

He sat back in the shabby, padded chair and pondered again on the mystery of the hundred credit note. There were several debtors who owed him small sums as a result of losing gambles, but none of them owed anything like a hundred credits. Not for the first time he regretted the lack of any form of racing on Xenon Three. Earth and the other great centres of population were too far away for any but the biggest sporting events to be of interest. There were perhaps a couple of dozen occasions in the course of a year when the gambling population of Xenon felt constrained to entrust him with their money. Even then it was risky, for he often found himself carrying too much money on a winning favourite without being able to lay off any of the bets he had taken.

The hundred credits crinkled easily between his fingers. At least he'd be able to pay the rent for the shabby one room and a cupboard which he called 'office.' It was three weeks overdue already. And then? A new suit, perhaps? Or else—

The phone buzzed, washing away the day-dream. He lifted it and pushed the vision button but no face appeared on the tiny screen.

"Richard Davos?" a voice asked.

"Yes. Davos speaking. Who's this?"

"Never mind. If I wanted you to know me I'd show my face."

Davos sighed and changed mentally from a bookie to a private eye. Probably someone wanted their wife watched. "What can I do for you?"

"You received a hundred credit note in the post this morning."

For an instant Davos was tempted to deny it. Then, "Yeah, that's right. So?"

"So that's the first payment on a job I want you to do for me. I'll put another note in the post when it's done."

"Well, I don't know—"

"Don't know what?" snapped the stranger. "You're an enquiry agent aren't you?"

Davos twisted his thin lips into a sneer. Enquiry agent! His last job had been a month ago locating a drunk whose wife hadn't dared call in the Law Squads. "Yes, I'm an enquiry agent."

"I want you to check the Public Records Office and see if there is any record of a man named Vincent Audus, a cousin or some other relative of the Mayor, Victor Audus. I want it done now and I'll call you back for the information this afternoon at four. If it's all right there'll be another hundred in the post tonight. While you're about it, I want anything you can find about this man, where he is, what he does—anything. If it's good I'll make it two hundred."

During the instructions Davos mouth had slid open in sheer astonishment and his eyebrows lifted so that they almost vanished into his low, plastered hairline.

"Understand?" snapped the stranger.

Davos jerked himself back to reality. "Yeah, yeah, sure. But—"

"That's all you need to know. I'll call you back at four." There was a click and the phone went dead.

Slowly, Davos replaced it in its rest. At least the hundred Cee note was explained—and what was more important, there were others where that one came from. The thought of money unbuttoned his almost forgotten zeal for ferreting out facts and details. He puffed out his thin chest as he rose from the padded chair, and, for a few moments at least, Richard Davos felt conscientious enough to try and earn his money.

The Public Records Office occupied the third and fourth floors of the Civil Administration Centre, and Davos was glad that on earlier occasions he had cultivated the friendship of Morley, the clerk-in-charge.

He had spent hours in the past looking through files and records with the faint hope that some of the magic knowledge he gained might be worth something, and in the dubious acquaintance of Morley his work had shown some reward.

Morley greeted him sourly but made no objection when he asked permission to browse around.

"Big job," Davos told the clerk. "Lot of money in it."

Morley wasn't impressed.

Davos went straight to the birth records under letter A. He started far back, and found the recorded birth of one, Harold Audus, some eighty years previously. Well, that was a start. He noted the file number and made his way to the information desks that surrounded the room. On a panel at the side of the desk he pressed the series of letters and numbers that made up the reference of the file he wanted, and bare seconds later the screen let into the top of the desk glowed and began to project the details of the file he wanted slowly enough to be read.

It began with the birth of Harold Audus in 2305, and it followed the family through their moves to three different addresses. It recorded the deaths of Harold's parents, and the marriage of his elder brothers and sisters. There were various off-shoots which Davos skated over briefly after assuring himself that the name of Vincent Audus did not appear.

Then came the marriage of Harold Audus to one, Arkady Lavers, and, three years later the birth of a daughter, Emily. That, thought Davos would be the thin-faced elder sister who had taken herself and an illegitimate son off to Earth some seventeen years before. And sure enough the birth of the son was listed. Davos sighed and continued his wading. Harold Audus became a local magistrate and a member of the governing council of Xenon City, and then, fifty-one years earlier in 2337, there was recorded the birth of twin sons to Arkady Audus.

The names were Vincent and Victor.

Eagerly now, Davos followed up each file. No one, so far as he knew, had ever heard of Vincent Audus until now. Certainly he had never heard the name in his twenty years on the planet. But as he traced the records the picture built up and lit a flame of interest within him.

The brothers had attended college on Earth and had returned home for good when they were twenty-three—in 2360. Both had followed their father into the mines and progressed rapidly, but Vincent first became remarkable when Davos came across a court record of his conviction for taking part in a political riot.

Davos punched the buttons to bring before him on the screen the court records for the period concerned. He found the conviction listed—together with three others, and as he read he felt a mounting excitement within him.

It was two in the afternoon when he left the Records Office. He passed the enquiry desk where Morley was sitting reading, and waved an airy hand at the clerk. "Thanks, pal, got all I want."

"Hey!" Morley straightened in his chair and waved him back. "I don't know what you've been up to, Davos, but a couple of guys wanted to know if anyone had been enquiring after a man named Vincent Audus." He looked closely at Davos. "Got that? Vincent, not Victor."

Davos felt his stomach turn over. He gulped and tried to shrug nonchantly. "So what?"

"I told them no, but they tried to get the Audus files on one of the tables, and they were shown as in use and not available." He eyed Davos speculatively. "You were the only one in the place at the time."

Davos licked his dry lips and felt sweat break out on his brow.

"Big job, you said," Morley told him sombrely. "You better be careful, Davos. I saw one o' them sitting in the gardens across the square. He might be waiting for you."

Davos paled. Usually his trade as an enquiry agent brought nothing more than a little keyholing and a little money. Now he had a job which was bringing a lot of money—and maybe a lot of trouble. He asked, "Is there a back way out of here?"

Morley smiled and relaxed slightly as if his suspicions had been confirmed. "Sure, down to the basement in the lift and out through the delivery yard. You can't miss it."

Davos nodded and was gone quickly through the door. He took the elevator down to the basement, and picked his way across the wide storage cellar towards the wide double doors. They stood open slightly and a long ramp led up to the street level. The roadway itself was deserted, and Davos turned directly away from the direction of his office. He circled well clear of the city centre and approached the back street from an entirely different angle. The stranger said he would call back at four.

Davos halted in his tracks. It was not yet three and somehow he didn't fancy sitting for an hour in his dingy office waiting for the phone to ring. The thought that he had missed his lunch turned him back to a small restaurant where he killed time for an hour over coffee and sandwiches.

It was ten to four when he mounted the stairs to the second floor, cursing as he did so at the lack of an elevator. He sat and twiddled his thumbs, counting the seconds as they ticked away slowly. It was exactly four by his wrist watch when the phone buzzed and he grabbed for it eagerly.

"Davos here."

"Good. Did you earn your money?"

Davos chuckled. The thought of the extra money brightened him considerably. "Did I! I dug up enough dope to put the Mayor on the spot for good and all. Is that your angle?"

"No, it isn't." The stranger's voice snapped at him angrily. "I'd advise you to forget all about it once you've told me what you know."

Davos grinned, not in the least perturbed. "Well," he said, "there's a Vincent Audus all right. He's the Mayor's twin brother. They grew up together and went to college on Earth together. Then they came back to Xenon and drifted apart. Victor went into mining with his father and worked his way up the hard way. Vincent seems to have been looking for an easier route to the top. He started mixing in local politics."

Davos went on through the mass of data he had uncovered; telling everything that he had learned. He quoted the court records and news items concerning Vincent Audus, and he became so intent on his story



that he didn't notice the office door as it opened a fraction, nor did he notice the shadow of a man dim against the opaque glass.

He said excitedly, "About that time Vincent left Xenon for good, there's no record of him ever returning to Xenon. He finished with local politics, and then—now, get this, mister—" and those were the last words Richard Davos ever uttered. Even the faint plop of a needle gun had no time to register on his mind as the tiny missile embedded itself in his brain.

III

Laraby listened to Davos with mounting excitement. Even on the tiny screen of the visiphone he could see that Davos was himself excited about his findings. Then, out of the blue, and over the sound of Davos' voice, Laraby heard the unmistakable plop of the needle gun. With horror he watched the momentary surprise that flickered across Davos' face before all feeling and all life slipped away, and the head fell sideways out of sight of the screen.

Almost without thinking, Laraby replaced the phone and then left the public booth in which he had made his call. He felt sick at the thought that he had unwittingly brought death to the seamy little man whose help he had sought.

All too quickly, he realised, the difficulties were piling up. What had promised to be a reasonably easy job had suddenly blossomed forth into a complicated puzzle wherein each discovered fact only added to the confusion. Vincent Audus must die on Xenon within a week—yet, so far as he could find out Vincent Audus had not been on Xenon in over twenty years!

Davos had been of considerable more help than Laraby had expected. He had definitely identified the existence of a man named Vincent Audus, and he had pinpointed some dubious political activity on the part of the Mayor's brother. The fact that no one seemed to be aware of Vincent's existence—even the Mayor's secretary—made it safe for Laraby to assume that the Mayor had been careful not to publicise his brother's political ties or private life. From this it was obvious that Vincent had never returned to Xenon—at least under his own name.

And yet Serenaga's instructions had been clear. Vincent Audus would be on Xenon some time during the next few days—five to be exact. Serenaga had been right about the existence of the man, therefore he had to be right about his movements. Laraby credited the Bureau with enough knowledge and intelligence to be right about those two details, meagre though the general outline had been.

He turned his steps slowly in the direction of the hotel.

One factor didn't fit in at all with his present knowledge. The death of Davos. The only possible reason for it was that Davos had been about to give him some information that was prejudicial to the person of Vincent Audus, and the only way to prevent it was to kill him.

Laraby reached his hotel and went straight to his room. It was after four-thirty and he felt that he would have to make some other

move before the day was out. He took off his jerkin and lay down on the bed.

He wondered about Davos.

He thought of his premature visit to see Victor Audus, and tried to tie it in with the death of the private detective. He couldn't. There wasn't even any proof that the Mayor's secretary had mentioned the incident—and even if he had there was nothing to connect it with the Davos affair. Unless—

Laraby sat up on the bed. Unless someone was watching the Records Bureau. And they might be watching it because of his enquiry after Vincent Audus. If Victor had kept a skeleton in the closet for over twenty years he might be willing to go to any lengths to maintain such secrecy. The Mayor was about the most important person on Xenon from a political point of view, and in that fact lay a motive for murder. Laraby realised that an interview with Victor Audus was of paramount importance. Only Victor could put him straight now, for Laraby dared not go back to the Records Bureau.

He puzzled over the problem of how that might be arranged. He went to the 'Pearl Drop' again that evening, but Audus didn't show up. The next day he spent between his hotel and the streets of Xenon City. He wandered around for hours trying to think how his aim might be accomplished. Twice he passed the Universal Minerals building, and each time caution warned him against trying to see the Mayor within its walls. In the evening he went again to the 'Pearl Drop,' still without an idea to work on.

For once, Audus and his wife were able to visit the 'Pearl Drop' alone, a fact which pleased the Mayor greatly. Usually he had to take a party of other local notables because business or politics demanded it, and though such evenings were gay and convivial there was always an undercurrent of subtle manoeuvring so that one had to be careful of every spoken word in case some obscure and untrue meaning was attached to it. It was pleasant for once for them to relax in a quiet corner table with only each other for company. They ate and drank quietly, without much conversation, not because they had nothing to say but because each of them was merely content to be alone with the other.

They watched the floor show for an hour, and just after eleven Audus asked, "Shall we make an early night of it, my dear?"

His wife nodded and smiled. "It would be a change, Victor."

"All right. Excuse me. I'll be back in a moment."

He weaved his way through the rear tables and went out through the softly lighted door. A short corridor led to one of the emergency

exits from the Club and also to the men's washroom. He was in there barely three minutes. He washed his hands and tipped the attendant who brushed him down, then he left.

In the corridor a man barred his way, apparently in the act of blowing his nose, but as Audus stepped sideways to pass him the other moved with him, and Audus felt his stomach churn with sudden fear as the glint of a needle gun showed in the man's free hand.

"Out of the door quietly, Mister Mayor," the other said softly. "Don't make any noise and there won't be any trouble. I just want to talk to you for a minute."

Audus recovered some of his poise and considered shouting for help. The stranger anticipated the idea for the slim barrel moved slightly and threateningly.

"Please!" The gun motioned him back.

It was almost black in the quiet alley at the rear of the Club. Only enough light came from the bulb over the doorway to outline the lean figure of the man with the gun, and he faced away from it so that Audus couldn't make out his face even when the white handkerchief was removed.

"You'll pay for this," growled Audus threateningly. "I'm an important man in this city—"

"I don't think you realise just how important," broke in the stranger. "All right, I'll make it short. I want to know about your brother, Vincent."

"What?" A light dawned in Audus' mind. "I know you, you killed Davos. He wanted to know about Vincent as well."

"How did you know about Davos?"

Audus laughed grimly. "A clerk in the Records Bureau came forward with a statement to the Law Office when he heard of Davos' death. Seems Davos had been there enquiring about Vincent."

"I know. I sent him there."

There was a blank silence while Audus digested the information.

"I don't believe you," he said at last. "You killed Davos because he knew too much, and now you're trying to get more information out of me. Well, it won't work. I haven't seen Vincent in over twenty years."

"Did they happen to find a hundred credit note on Davos?" the man asked softly.

Audus frowned. "Yes, I believe they did."

"I sent it to him as payment for the enquiries he was to make about Vincent. I phoned him to get his report and he was shot with a needle gun before he could finish his story. All I found out was that your brother had been convicted for political offences after which

he left Xenon. There was more to come, but Davos didn't live to tell it. You've been working pretty hard to cover up Vincent's existence, Audus. It might have worked if you could have got rid of the Records Bureau."

Audus shrugged in the darkness. "Why not? I've become a big man on this planet."

"That could be your motive for killing Davos."

"What?" Audus felt stunned as the point was made unutterably clear to him. "Do you mean—"

"What were Vincent's political tie-ups?" the stranger interrupted.

"Radical—disjointed almost. He was always preaching about freedom but he didn't seem to have a very clear idea of what the word really meant."

The other laughed. "Sure, freedom for himself and others like him to do as they pleased."

"What does that mean?" demanded Audus truculently.

"I don't know for sure. From the little I've been able to find out I've a hunch it included the complete enslavement and exploitation of the native Xenians. Can you imagine what the mineral output of this planet would be if our furry friends were forced to work? I can think of a lot of people who would benefit from it—you for one."

"Me? But—"

"Oh, don't worry. Your record speaks for itself, and so does your brother's. There aren't many political offences that a man can be jailed for, but one of them is acting contrary to the provisions of the Exploitation Bill."

Audus felt sick. Whoever this man was he had a broad insight into the local setup that was too clear to be comfortable. One of the skeletons in the Mayor's cupboard was coming into the light of day after two decades.

"Did you know that Vincent will be on Xenon sometime in the next few days? In fact, he may already be here."

"What?" The surprise in the Mayor's voice was almost comical.

The other chuckled. "Apparently you didn't." There was a pause, and then he asked, "Is there any reason that you know of, Mister Mayor, why Vincent's presence here should be of any political importance during the next few days?"

Audus tried to adjust his thoughts. There was something about the man in the shadows that was more than ordinarily disturbing. He had an authority and a knowledge about him that set him apart from the ordinary thug or political entrepreneur. There was in his attitude that which seemed to place him on the same side as Audus, though what that side was seemed a little hazy.

The Mayor shook his head in bewilderment. "No, nothing that I can think of." He laughed a trifle inanely at some private joke. "Anyway, in four days time—" He bit off the phrase hastily, cursing inwardly as he did so.

"In four days time—what?" prompted the stranger softly.

"Never mind. It isn't important."

"On the contrary, it's very important. Four days brings us up to the sixth." There was a short, electric silence, and then the man chuckled quietly. "If you left Xenon on that date you could make the trip to Delphic Two in two weeks."

Audus said nothing. There was a leaden weight deep in the pit of his stomach.

"The Colonial Conference begins in three weeks, doesn't it, Audus? And you'll be there." The man chuckled again, harshly. "And Vincent is coming to Xenon in four days. It begins to make sense at last. Listen Audus," his voice took on a fresh urgency, "if we ever meet again in public during the next day or so you will not know me. If anyone comes up to you and asks how Serenaga is keeping, you'll know it's me. Serenaga is the name, got that? You reply that you haven't seen him in three years. All right?"

"I don't—?" Audus flapped one hand vaguely.

"Just remember that, Audus. Your life may depend on it."

And before the Mayor could recover his wits the man had gone swiftly down the alley, and was lost in the main street. Audus took two futile steps after him and then stopped. He turned back to the emergency exit and stepped into the brightly lit corridor.

His wife and two men, one of them the club manager, were having a heated discussion which stopped as he entered.

"Victor, where have you been? I've been waiting nearly a quarter of an hour." Her face was pale and worried. "Say, you look terrible, are you all right?"

"Yes, I—a little faint." Something stopped Audus from telling the real reason. "I just wanted a breath of air. I'm sorry, my dear, I'll take you straight home."

IV

Laraby went straight back to the hotel. He wasn't worried about being followed since his meeting with the Mayor had been too casual to allow of any preconceived plans. The main streets were brightly lit and bubbling with life. It seemed that the coloured signs and flashing shop displays held a vital fascination for the rainbow-furred Xenians. They wandered about, their round eyes unblinking, gazing

with an almost alien wonder at the scene around them. Perhaps, thought Laraby, this was one of the reasons why they agreed to work in the city as much as they did.

He wondered what the lot of these people would be if they were not protected by Earth's own laws. The thought wasn't pleasant.

The success of his impromptu holdup had been greater than he dared hope. He had sat in the 'Pearl Drop' for almost two hours watching Audus from a distance and wondering gloomily how he might approach the Mayor. And then, in an instant, as Audus went through the lighted door at the rear of the club, his problem was solved.

Not only that, but the interview had produced more information than he had expected. First, it proved almost conclusively, that Audus had not been responsible for the murder of Davos—unless he was a first-rate actor. Second and most important, he had tied in a motive for Vincent Audus' presence on Xenon. The details he did not know, but the rough outline was there, based on the fact of the Mayor's journey to Delphic Two.

A shot in the dark had given him some clue to Vincent's earlier political activities. The Mayor's silence when he had mentioned the possible exploitation of the Xenians, had been more eloquent than any spoken word. The one thing that the Mayor had to uphold in his official capacity was the Colonial Exploitation Bill. Laraby could understand his silence at the slightest hint that he might be even remotely concerned with a threat to the conditions of the Bill. If, twenty years ago, Vincent's activities had been aimed at the repeal or setting aside of the Terran law, then Laraby could understand the Mayor's eagerness to keep the fact as quiet as possible.

So the picture was beginning to build up, and now, he had to find Vincent Audus.

The death of Davos was now more or less certainly pinned on the supporters or agents of Vincent Audus. Vincent himself was the third side of a triangle already made up of Laraby and the Mayor. Quite clearly someone wanted to keep Vincent's name out of circulation, and the reason why was now all too clear. Laraby had no doubt that he would be the next one marked for death if there had been anything to connect him with Davos. The leak had come from somewhere, and straight away Laraby ruled out the Records Bureau. According to the Mayor the clerk at the Bureau had been quite open in his evidence that someone, apart from Davos, wanted to know about Vincent Audus.

That left who?

Victor Audus himself, and the secretary to whom Laraby had first addressed his enquiry for Vincent. He recalled the secretary's puzzled

correction that the 'V' stood for Victor, and he was sure that the man's surprise had been genuine. There had been no other reaction, no suspicion, no attempt to find out who he was or to detain him when he left. That meant that someone else must have been told.

By this time Laraby's sharp walk had taken him almost to the hotel. He entered the lobby and went straight to one of the public phone booths that stood there. In the directory he sought the home of the Mayor and called the number. The face of Audus appeared on the screen, obviously puzzled by the lack of vision at his end.

"Who is this?" he asked sharply.

"I left you a short while ago," Laraby told him. "How is Serenaga?"

"Oh, you." Audus smiled grimly. "I haven't seen him in three years. Look, I don't know why, but I've kept quiet about that incident at the 'Pearl Drop.'"

"Thanks, but I doubt whether you could have harmed me if you'd decided otherwise."

"Perhaps not—but then, I'm intrigued. What do you want now?"

"Who else, apart from your secretary, knows that I called at your office and asked for Vincent Audus?"

"So it was you? I figured it must have been after you left the 'Pearl Drop.' Anyway, I don't see—"

"You don't have to. Who else knows?"

"Only Devlin, the boss of my Security Department. I gave him the job of finding you." Audus grinned. "Seems I've been more successful than he has."

Laraby chuckled and broke the connection. He had what he wanted.

So, another person had entered the field, and where did that knowledge lead him?

He went up to his room and closed the door. He wondered how the Mayor's man—what was his name? Devlin—how Devlin would approach the problem of finding him. How would he go about tracing an unknown man on the brief description that the secretary would be able to provide? And as he wondered the answer came simply and clearly to his mind.

Devlin would know that the stranger would look for another way of finding out about Vincent Audus since he would not dare go back to the Universal Minerals building. And where would a stranger quite obviously go? Laraby chuckled grimly. To the Records Bureau. Devlin would watch the Bureau as soon as the thought occurred to him, but the results of that watch had netted not the stranger whom he sought, but Davos. He must have known Davos and where to find him—and Davos had been killed passing on information. Why?



Equally simply the answer clicked into place. Devlin was one person who wanted to keep quiet any knowledge of Vincent Audus, and he wasn't doing it on instructions from his boss, the Mayor. At least, Laraby didn't think it likely, for Victor Audus had been too free with his information to be anything but an innocent party. Somehow Devlin was tied in with the missing and mysterious Vincent.

Laraby went happily to sleep realising that, though much of his theory was based on mere conjecture, his next move was to find Devlin and perhaps through him, Vincent Audus. He had three days left to do it in.

Over breakfast the next morning Laraby decided on his course of action. If, as he supposed, Devlin was tied in with Vincent Audus,

then he would certainly do anything to prevent an open contact between Laraby and the Mayor. Therefore, assumed Laraby, an open visit to Devlin at the Universal Minerals building might have interesting results.

If he was wrong and Devlin merely hauled him in front of Victor Audus then he might have to reveal his identity and play it out from there. Somehow Laraby didn't think that would happen.

He left the hotel without doing anything to disguise himself beyond dressing in a more flamboyant manner than on his previous visit. He discarded the headgear he had worn then, and dropped in at a barber shop on his way across town to have his hair trimmed to a shorter style at the neck and the temples. He knew from past experience that such superficial changes as these were usually enough to prevent recognition. Most people were notoriously incapable of recalling faces in whom they had no interest.

At the Universal Minerals building the same commissionaire eyed him as he went in, and the same desk clerk greeted him with bored disinterest. A phone call elicited the fact that Mister Devlin was out.

Laraby chuckled. "Tell him I want to give him some interesting news on the subject of a man named Davos."

The clerk's boredom vanished as the name sparked his memory of recent telecasts and news reports. "Davos? But why should Mister Devlin—?"

"Tell him," interrupted Laraby gently.

The clerk relayed the message and after a moment replaced the phone. "Room forty-seven, along the corridor to your right."

Laraby grinned, nodded his thanks and walked in the direction indicated. Room 47 lay around a bend and to the rear of the building. It had a glass panelled door on which was inscribed:

HUGO DEVLIN : Head of Security

Laraby went in without bothering to knock. He closed the door behind him and his eyes swept rapidly around the large office, taking in at a glance every detail that might be important. To the left a large window opened on to a rear courtyard of the main building, and beside the window a door denoted the alternative exit from Devlin's office. Opposite him, across a stretch of thick, red carpet, stood a desk, and from behind the desk a thickset, stocky man with cropped red hair, rose to greet him.

Laraby smiled, "Mister Devlin?"

"That's right. I believe you have some information on the case of this man, Davos. Is that so, Mister—?"

Laraby ignored the invitation to introduce himself. "Yes, I have. I thought you might be interested."

"Why me?" Devlin raised his eyebrows and spread his hands in surprise. "I'd have thought you would have gone to the Law Office."

"Under ordinary circumstances I might," agreed Laraby equably. He sat down in a chair at the side of Devlin's desk. "But before I do that I have a question that I thought you might be able to answer."

"If I can." Devlin's eyes were grey, wary and puzzled.

"Why did you have to kill Davos at the particular moment you did?"

There was a dead silence. Devlin's face was stony with disbelief as he sat unmoving, his eyes like diamonds fixed on Laraby. He didn't have to deny anything. Shocked admission and belated understanding were written too plain upon his florid face. Laraby felt almost light-hearted as he realised that his risk had not been in vain, that his shot in the dark had hit a light switch and brought brilliance to the scene.

Devlin knew it too, and it was almost to his credit that he did nothing to try and confuse the issue. He reached almost casually into his jerkin pocket and brought out a small, slim needle gun.

"I don't know your name," he said, "but I have an idea that you are the man who is looking for Vincent Audus."

"That is so," smiled Laraby.

"You realise that you know too much?"

"On the contrary, I know too little," replied Laraby. "My greatest step forward is to tie you in with Vincent Audus. Beyond that I'm in the dark."

"Forgive me if I doubt that," Devlin told him sardonically. "Even if it is true you still know too much."

"One thing, though," Laraby reached casually for his jerkin pocket.

"Hold it," snapped Devlin, moving the needle gun threateningly.

"I only want to smoke," Laraby objected mildly.

"I'm a security expert, remember?" Devlin smiled grimly. "I've seen cigarette holders become guns, and I've seen lighters become flame throwers in miniature." He motioned with the gun. "Take it out slowly and lay it on the desk."

Laraby shrugged and did as he was told. Devlin reached forward and picked the metal case from the desk top with his free hand, weighing it gently.

"Nice piece of work. I suppose if I point the ejector nozzle at you and press the catch—"

"No, don't," Laraby stood up in obvious alarm.

"So I was right," Devlin chuckled. "Never mind, I'll point it at the door instead."

Pressing the catch was the last move he ever made. The disguised case shot its compressed charge of gas straight into his face, and Devlin collapsed without a sound across the desk, the gun clattering from his dead hand to the floor beneath.

Hurriedly, Laraby stuffed a couple of filters up his nostrils, and then locked the office door. He regretted having to kill Devlin only insofar as it might hamper his future movements. Alive the man might have been able to give information, but he would also have given trouble. The fact that Laraby was in a strange city on an alien and unfriendly planet meant that any action he took had to be quick, sure and decisive. Devlin was a man to whom no second chance could be given.

Laraby moved quickly and surely. He went through Devlin's pockets and removed a diary and a wallet. The desk drawers came next, though he didn't think Devlin would be stupid enough to leave anything important lying around his office. The other thing of importance was a key ring with four keys. One of them fitted a wall safe set behind the desk. Inside were only Corporation papers and a small sum of money. Another key opened a large cupboard that stood against one wall, but inside only books and files and papers met Laraby's gaze. Hurriedly, he removed all the contents of the cupboard and stuffed them into other drawers in Devlin's desk. The metal shelves of the cupboard were adjustable, and he moved four of them to make a large compartment into which he packed Devlin's body. At least, he thought, it might delay knowledge of the man's demise by a few hours or even as much as a day. By now, time was becoming valuable.

He went out of the rear door, and walked unhurriedly across the courtyard and out into the street.

V

Back in his hotel room Laraby made a study of the contents of Devlin's wallet and diary. The wallet yielded some money, a couple of official cards and a tri-di photo of a hard-eyed blonde with a voluptuous figure. Laraby smiled grimly. She looked the type Devlin would go for. There was a membership card for a private drinking club which gave him Devlin's address, an apartment on the outskirts of Xenon City.

The diary was more rewarding. It listed Devlin's movements and his appointments for some time past; the entries for the past week were more than helpful. There was a reference to an interview with a man named Nicol on the day of Laraby's first call at the Universal Minerals buildings, and the very next day a note 'Records Bureau?'

followed by 'Davos' heavily underlined. Odd entries that would have meant nothing to anyone who wasn't looking for something out of the ordinary.

Laraby turned to the 1st—that was yesterday—the only note was 'Lynne—8.30—flowers.' Laraby had a small bet that the blonde charmer's name was Lynne. The opposite page was for this very day and had one name written on it together with a time.

It read : 'Virgil Anderson—6 p.m.'

Laraby pursed his lips with grim satisfaction. Once again the initials V.A. cropped up, and it was only four days before the Mayor's proposed departure for Delphic Two. Vincent Audus had to arrive on Xenon sometime, and a four-day gap was about as narrow as could be expected.

Laraby felt without question that Virgil Anderson and Vincent Audus were one and the same person.

He picked up the phone and called the local travel bureau. When the receptionist answered he asked her, "Can you tell me if there is a vessel arriving at the spaceport today?"

The girl consulted a roster out of sight of the screen, and then nodded, "Yes, sir. Just one. A passenger flight from Xenon Four. It arrives at sixteen hundred local time."

"Thank you." Laraby replaced the phone ; he had what he wanted. The trail was getting warmer, and it was nearing its end. It would take the mysterious Virgil Anderson just under two hours to get to Xenon City from the spaceport, and if he went straight to Devlin's apartment he would get there about six. Laraby looked at his watch. It was just noon. He had to pray that Devlin's body would remain undiscovered until late in the day—preferably until the next morning. He didn't want anything to upset the appointment that Devlin had marked in his diary.

Laraby lunched quietly in his room, planning what action he should take. Whatever happened it was clear that the climax was approaching rapidly. With normal luck and proper planning today would be his last on Xenon Three. His meal ended he relaxed on his bed for an hour.

Soon after three he made a phone call to a private number in the area of the spaceport. To the man who answered he merely said, "Tonight between eight and nine. Don't wait after that hour." Then he broke the connection.

It was three-thirty when he left the hotel and strolled across town in the direction of the apartment block in which Devlin had lived. He had no trouble in finding it. The ornate modern building towered

nine stories into the air, and was topped by a flat copter landing roof. That, at least, gave some indication of the class of people who lived there. He doubted that Devlin's salary from Universal Minerals was enough to pay for a luxury apartment like that unless it was supplemented by some other income.

Devlin's flat was on the top floor within easy reach of the copter roof, a factor which Laraby was quick to realise as being important. Any comings or goings by copter could be done quickly and quietly with few onlookers and fewer aroused suspicions. One of the keys on the ring which Laraby had taken from Devlin fitted the front door.

Laraby made a quick reconnaissance of the four large rooms ; the flat was deserted.

By this time it was well after four-thirty, long past the arrival time of the passenger ship from Xenon Four. Laraby went down to the public call booth in the main foyer of the apartment block and put a call through to the spaceport office.

A trim brunette in a neat uniform of the Space Service answered his call and confirmed that the passenger flight had arrived on time. "Just over thirty minutes ago, sir."

"Have all the passengers left?" asked Laraby.

"Yes. The last one left a few minutes ago."

"Damnation," breathed Laraby with simulated annoyance. "I was supposed to meet a Mister Virgil Anderson, but I got held up. I expect he's gone by now?"

The girl consulted the ledger before her and nodded. "Yes, sir, he had a private copter waiting for him. He left almost at once."

"Oh!" Laraby frowned and nodded. "All right, thank you. I'll get in touch with him as soon as he arrives here. Thank you again."

He broke the connection, and made another call to the office of Victor Audus. The secretary answered the call, but Laraby had taken the precaution of not using vision. He asked for the Mayor, and met the man's objections by saying, "I have some news from Mister Devlin in connection with a certain matter which Mister Audus is interested in."

The man hesitated, obviously torn between his duties as a buffer and the possible importance of the 'certain matter.' Then he nodded, "I'll put you through."

Seconds later the face of the Mayor swam into view on the screen.

"Good afternoon, Mister Mayor. How is Serenaga?" asked Laraby.

Audus pursed his lips into a wry smile. "You crop up at the most unexpected times. I haven't seen him for three years. What can I do for you this time?"

"Do you know Devlin's apartments?"

"Of course—it's a new block on the outskirts of town."

"I know, that's where I'm calling from. Can you come over here right away?"

The Mayor looked startled. "Why?" he demanded.

"Your brother will be arriving here in just over an hour," Laraby retorted coldly. "I thought you'd like to be on hand when he arrives."

"And where is Devlin?"

"He doesn't matter for the time being. Can you come? Alone?"

Audus shook his head in bewilderment. "I don't know why I've gone this far with you. I should have called in the Law Squads long ago."

"You're wasting time," snapped Laraby.

Audus hesitated for a moment and then shrugged resignedly. "All right. I'll be over in twenty minutes."

Laraby replaced the phone and then went back to Devlin's flat.

It was just after five when the buzzer announced Audus' arrival, and Laraby opened the door to let the Mayor into the small entrance hall. Audus stood for a moment, his eyes appraisingly on Laraby. He saw a slim, spare man some two inches short of six feet, with a calm almost ascetic face and strong brown eyes. With a little more fire and a little less steel Audus could imagine him as a religious or a political fanatic. His frame was not strong, yet in his bearing and manner there was decision and iron resolution. Audus saw a quiet man with nerves of steel.

"So," he said with a smile, "you're the one who's been causing all the trouble."

Laraby returned his smile and asked with quiet irony, "How is Serenaga? Forgive me if it gets monotonous, but I have to play safe or not play at all."

"I haven't seen him for three years. Now then, what's all this about?"

Laraby led the way into the lounge and motioned Audus to a chair.

"How well do you love your brother?" he asked.

"That's a hell of a question. I haven't set eyes on him in over twenty years."

"How close were you as children?"

Audus shrugged. "Not too close. Not as twins usually are. We differed too much in our ideas. I wanted to get on because of the things I could get. Vincent was—well," he shrugged.

"He wanted power for the sake of power, is that it?"

"Yes, I guess that's it. He saw power as an end in itself, and of course, that sort of outlook brought him nothing but trouble. People

don't mind an ambitious man, but they hate and distrust a man who merely wants power for what he can do with it."

Laraby paced the floor in front of the Mayor. "It's going to bring you nothing but trouble in a little while."

"What do you mean by that?"

"Your brother's ambition has got a bit mixed up with yours as far as I can tell. One of you is going to suffer."

"I still don't see—?"

Laraby waved a hand and shook his head. "I can't explain any more now because I don't know for sure myself. I think I've got all the answers, but I doubt if you'd believe my story without more proof than I can give at the moment. Therefore, I'm going to ask you to go along with me for a while longer. Are you willing?"

Audus frowned, and Laraby could see the indecision in his mind. Already the Mayor had compromised himself considerably; Laraby knew that only curiosity and a desire to find out what his brother was up to after all these years, had kept Audus from blowing the whole thing wide open. If any real trouble resulted then the Mayor's whole status and position might be jeopardised. His political career could vanish in the backlash from any hint that there was any connection between himself and the radically-minded intrigues of his brother.

"Give me an hour," begged Laraby. "Give me until half an hour after your brother gets here. If I'm wrong I'll get out quietly and make no trouble. But if I'm right—"

"If you're right?" prompted Audus.

"You will know and so shall I."

Audus sighed and nodded. "All right. I've gone this far. I might as well see it through. What do you want me to do?"

"Go into the bedroom and lie down. Then let me tie you hand and foot."

"What? Are you—?"

"In a little while," continued Laraby imperturbably, "someone or some persons will arrive here, and I shall bring them in to see you. One of them will be your brother unless I'm wrong. From then on you'll have to play it as it goes. Just remember one thing—this is Devlin's flat, and it was Devlin who lured you here."

Audus shook his head dazedly. "I'm lost. I—"

"Just do it," said Laraby. "Do as I say and the answers will come soon enough."

"Is one of the answers to do with the Xenians?" asked the Mayor softly.

Laraby's eyes flashed at him. "I'd have thought you could answer that better than I."

Audus frowned. "But the other night you said—"

"That was a shot in the dark. Your silence helped to confirm a guess I was making, but I'm still not sure about anything. I've only my suspicions to go on.

"I see." The Mayor twisted his fingers together in obvious uncertainty. Laraby's admission to making 'a shot in the dark' had surprised him. He had assumed that Laraby's remark about the possible enslavement of the native Xenians had been based on actual knowledge supplied to him by Davos. Now, the man was admitting just the opposite.

He drew a deep breath and looked up at the man who stood before him. Something prompted him to clear the air if he possibly could.

"Did you know exactly why my brother was imprisoned all those years ago?" he asked.

Wordlessly, Laraby shook his head.

"He advocated the repeal of the Exploitation Bill, and the advancement of the Terran Empire as rapidly as possible by every means at the disposal of the human race." The Mayor pursed his lips and looked at the floor between his feet. "He produced figures to prove that the forced conscription of the Xenians for an active and permanent labour force could increase the mineral output of the planet by over six hundred percent within ten years. He even got the backing of two of the biggest mining corporations. They promised him money and power if his plans were successful—and they ran out on him when things went wrong."

There was dead silence as he finished speaking. Then Laraby said quietly, "I'd better tie you up. He'll be here soon."

VI

Laraby heard the dull noise of the copter as it approached the apartment block. He heard the engine change tone and the whirl of the blades deepen in pitch, and inside him the tension mounted as he realised that the climax was upon him. Soon his mission would be completed—or he would be dead. Perhaps both.

He opened the bedroom door and said, "Audus, they're here. Now is the time to start your act."

"You tied these damned knots too tight," growled the Mayor.

Laraby chuckled and closed the door.

A minute later the sound of the buzzer announced that his visitors had arrived.

His heart beat dangerously fast as he crossed to the entrance hall to open the door. He paused for a second to force his nerves to calmness. Then he opened the door.

Three men stood there and eyed him in surprise. Laraby forced himself to smile, "Mister Anderson? Come on in. We're expecting you."

Even as he spoke the resemblance between the smallest of the three and the man who lay bound in the bedroom, struck him like a physical blow. Here, but for the clothes, was the Mayor himself, even down to the slightly hunched shoulders and the heavy, almost flat-footed walk. The other two were not known to him, but there was some consolation in the fact that they were not natives of Xenon. They were taller, and darker—natives of a world with a hotter sun and a slightly smaller gravity.

"Where is Devlin?" snapped the man named Anderson as Laraby closed the door.

"He had to go into town to clear up a couple of things," replied Laraby. "He'll be back soon."

"And the others?" Anderson's voice had the same clipped, positive accent that Laraby knew so well.

"With him," said Laraby, and prayed that whoever the others were they stayed in town and out of the way.

"Is there trouble?"

Laraby shrugged. "Some," he admitted. "A small-time private detective started making enquiries about you for no apparent reason. Devlin had to get rid of him before he got too noseey."

Anderson nodded. "I heard about it at the spaceport. I wanted Devlin to report in person."

"Everything's under control," Laraby assured him.

"It had better be," was the grim retort.

Tentatively, Laraby motioned to the bedroom. "The Mayor is in there."

"So soon?" Anderson's brows drew together in a frown of surprise. "I wasn't told."

"We had the chance to take him so we grabbed it. All you have to do is fill in here, on Xenon, for a few days. If you know your lines—"

"What the hell do you think I've been doing these past months," rasped Anderson. "Films, stereos, hypnosis. Sometimes, I really believe I am the Mayor of Xenon City. Well," he dropped his traveling cloak across a chair, "I think I should like to see my brother."

He crossed to the door and went into the bedroom with Laraby and one of the other men close behind. From the bed the anger in the eyes of the Mayor changed to a look of sheer amazement as he saw the startling likeness.

"Vin—Vincent?" His voice was high with surprise. "It—must be you."

Anderson chuckled softly. "Surprised to see me, Victor? Well, I suppose you would be after twenty odd years."

"But the likeness? It's like looking in a mirror!"

"Oh, it's been helped," Anderson told him. "A bit of surgery—a few injections. The results are quite remarkable, don't you think?"

The Mayor struggled slightly with his bonds. "Vincent, get these knots untied. What the devil's going on anyway?"

"Sorry, Victor." Anderson shook his head with mild regret. "You are less of a threat as you are."

"Threat? You mean you—approve of this man's treatment of me?"

"Wholeheartedly, I'm sorry to say."

"But why? What—"

"It is my intention," Anderson interrupted, "to take your place at the conference on Delphic Two, and—"

"What?" Sheer consternation flooded the Mayor's face, and Laraby felt a little of his inner tension disappear as one of his theories was proved right, and one of his questions was answered.

"But—what possible reason—?"

"Don't be a fool, Victor," snapped Anderson. "I know perfectly well, and so do my associates, that there is a secret item on the agenda of the conference to arrange a long-term trade and economic treaty with Earth—a treaty which will tie the colony worlds hand and foot to Terran economy. We know, too, that Earth is the chief sponsor because she thinks that the colony worlds have been showing too many signs of independence in recent years. Earth is afraid of losing her empire. She's afraid that the wealth she now controls will pass into the hands of those to whom it rightly belongs, the worlds of Xenon and Delphic and the rest." Anderson's eyes blazed with fierce intensity. "We do not intend to let that happen. Earth has had her chance and thrown it away. She's been too greedy over the centuries—now it's our turn, the turn of the colonists to take what is theirs by right."

There was a long pause. The Mayor said, "I see. There have been rumours for a long time. That's why the treaty was kept secret."

"We have been working for a long time in the cause of independence for the colony worlds—"

"Independence!" Audus' voice was sharp with irony and disgust. "I know you Vincent. Independence for you and others like you to carve your own little empires and spheres of interest. I should have realised twenty years ago what you were after. Power for the sake

of power—and to achieve it you'd tear down the whole structure of human civilisation throughout the Galaxy." The Mayor's eyes flared with the depths of his feeling. "What good do you think impersonating me will do, even if you get away with it?"

Anderson smiled gently. "The one thing that would defeat the treaty and force ultimate independence for the colony worlds would be for you to speak against the treaty and announce at the same time that Xenon is severing her relations with Earth and becoming an independent state, sovereign in her own right."

Laraby felt another piece of the puzzle fall into place. The picture was building up to completion.

"Divide and rule? Is that it?" asked the Mayor.

"If you like," shrugged Anderson. "Mankind has acted as a wet nurse for backward races too long. There's power and wealth to be had for the taking but for the stupidity and short-sightedness of the people back on Earth. Eight hours work a day from every native Xenian could turn the mines of this world into an Aladdin's cave. You and others like you are only scratching the surface because of an archaic and unrealistic law passed by people who've never set foot outside their own solar system."

"You'll never get away with it."

Anderson laughed harshly. "I shall take your place at the conference table, and afterwards you will die in an accident that has already been arranged."

"Leaving you free to take my place."

"No." Anderson shook his head. "That would be too risky. With you dead there are plenty of people willing to come forward as the leaders of the new independence—some of them you already know. I shall remain in the background and gather the rewards of my enterprise, and you shall lie in a hero's grave as the man who died at the moment of his greatest triumph." He laughed gently and ironically. "It's strange to think, Victor, that the credit for the future greatness of the human race will be given to you. They may even erect a statue to your memory after the Exploitation Bill has been repealed. It should make you very happy."

So there, thought Laraby, is the whole story—out in the open. He thought of the mild, freedom-loving Xenians with their wide, bright eyes and their multi-hued furs toiling in the mines for the benefit of others. He wondered if their alien minds would decide on racial suicide as the answer to their fate. Who could say to what lengths they might go to escape the fate that Anderson and his associates had planned for them. He multiplied the thought a hundred times, a thousand times—he multiplied the suffering for every subject race in

the Galaxy, for no race and no people would escape the consequences. The greatest tyranny the universe had ever known would be laid at the feet of Mankind. Laraby felt sick at the thought, and the pale, horror-stricken face of the Mayor showed that he, too, was thinking along the same lines.

Laraby had his man, and he had the reason for his execution. All he had to do now was to carry out the sentence.

In the next room, muted, a phone buzzed, and the soft sound sent hair-trigger alarms through Laraby's nerves. He heard the voice of Anderson's man answering it, and his right hand went casually into his jerkin pocket. The low murmur of the man's voice was brief and staccato, and then he appeared in the doorway his face grim with surprise and worry.

"That was one of Devlin's men," he said. "Devlin's been found dead in his office, and there's a rumour that there is a Terran agent somewhere in the city."

"What?" Anderson's voice was sharp. He swore luridly, his face paling under the shock. He stood tense and rigid for several seconds before suspicion swivelled him in Laraby's direction. His eyes widened with horror, and the suspicion in his mind turned to certainty as he saw the blaster steady in Laraby's hand.

The man in the doorway saw it too and moved swiftly—to die as swiftly before he could reach his own weapon. The other man fell flat and tried a snap shot with a needle gun before he joined his companion in the immobility of death.

Anderson, too stunned to move, stood white-faced and stricken at the sudden ruin of his plans as they collapsed around him. Laraby looked at him sombrely and felt the familiar revulsion for his duty rising within him as he turned the blaster on the Mayor's brother.

"Vincent Audus," he announced quietly. "By the authority invested in me, and in accordance with the instructions of the Terran Colonial Board, I offer you sentence of death. May God have mercy upon your soul."

Anderson had barely time to register his horrified understanding as the ritual pronouncement ended, and then the blast of Laraby's weapon enveloped his head to give him death and anonymity.

Laraby went quickly into the bathroom and was sick for several minutes.

The Mayor sat on the edge of the bed white and shaken, and rubbed circulation back into his wrists and ankles.

"Did you have to kill him?" he asked huskily.

Laraby nodded. "Those were my orders. You can't keep political prisoners, it only makes live martyrs of them. While they live they are a source of continual trouble. Your brother's associates will be able to guess what has happened, but they will never be able to make political propaganda out of it. That is why I blasted his head—he's nobody now. He'll be cremated with these other two as just another pawn in the game of interstellar politics, and no one will ever know the full story except you."

"Suppose I talk?"

"Think about it for a while—you won't. There's too much at stake. The future of every subject race in the Galaxy is in your hands. If it ever got out how big and well-organised are the forces at the back of your brother, then there may be other attempts. People will stop and think that if men like him are so determined then there must be something in the things he believes in."

"Is it always like this? Death without trial and no second chance?"

"You're a fool, Audus," Laraby told him calmly. "There can be no second chance for anyone if the Galaxy is to be ruled as it should be ruled. Dangerous men must be removed as quickly and as quietly as possible. Public trials and prison sentences accomplish nothing—they only give publicity to those whom publicity and martyrdom mean ultimate success. To the average man officialdom is the villain, and those who fight it are knights in shining armour. They could use their trials as sounding boards for their ideas, and some of those ideas might take root. Some other man with power in his mind and ruthlessness in his heart would come along to take their place simply because their publicity started his ambition."

"Your apparent deviation at the Delphic conference would have made you a hero to some. It would have cast doubts in the minds of others and before you knew it the Galaxy would be in utter chaos. It would have set Terran colonial policy back centuries—it might have destroyed it altogether. It could have led to war and the breakdown of friendly contact between the star systems. Some of them would have supported Earth, and others would have gone the way your brother wanted. You would have been a hero to some, and a villain to others, but those who supported your policy would have reaped the harvest that followed—and none would have reaped a greater harvest than your brother."

"Is there no other way?" The Mayor's voice was almost pleading.

"What would you have us do?" Laraby asked him. "With light-years separating one world from another trouble can raise its head in any one of a hundred places. Ambitious men with well-laid plans

could turn the Galaxy into chaos within a month if they were not held in check. Earth can't have armed forces everywhere, the distances are too great, and many of the colony worlds would object to having garrisons on their doorsteps. If she did it Earth would be playing into the hands of people like your brother and his friends."

"So the answer is you,"

Laraby shook his head. "No, I'm the final brick in a large wall. Earth relies on teams of security agents spread thinly and actively throughout the Galaxy. Many of them are local men and women. They are backed by teams of troubleshooters who go anywhere at any time to stop things like this," he waved his hand at Anderson's body, "ruining the lives of billions."

"And you are one of these—troubleshooters?"

"No, I come after them. I am the executioner who carries out sentence prescribed by the Colonial Board after they have considered the reports from the men on the spot—the troubleshooters."

The Mayor looked at Laraby askance. "But—you're sentencing and killing men without trial."

"They make their own trial," said Laraby grimly. "By their own actions they condemn themselves in the eyes of those that watch them. It is on their own actions that the troubleshooters report, and it is on those reports that the Board prescribes sentence." Laraby looked at the floor. "In every case the sentence is death—there is no other answer."

Audus sat and looked at his hands as if they did not belong to him. All at once he was a very small cog in a giant wheel whose axle was Earth. He had thought of himself as an important man because he was the Mayor of Xenon City and the leading politician on the planet. Now—? He felt small and insignificant beside the vastness of the machine around him—a machine called Mankind that moved with unstoppable determination towards an ultimate end which he would never see; a machine that cast off its broken parts with a ruthlessness that was as implacable as the ambition which drove it. His brother had been one of those parts.

He shivered and looked at the quiet, slim man who stood before him.

"And now—what?" he asked.

Laraby shrugged. "I go back to Earth, and you go to Delphic Two and build the future as it should be."

"But," Audus waved a hand around him, "all this? And Devlin?"

"Wait until I've gone, and then call the Law Office. Tell them you came here in answer to a message you received from Devlin. Tell

them that these three men were waiting for you, and explain that it was a kidnapping designed to keep you from the conference. You waited for your chance and siezed a blaster—" Laraby shrugged and grinned, "—that should make you even more popular than you are already. Make no mention of me. By tomorrow I shan't even be on the planet. I'm leaving now, my job is done. Give me half an hour and then call the law." He held out his hand and the Mayor shook it briefly.

" Goodbye, Audus, and remember one thing—the Galaxy and the people in it are greater than any one man or group of men."

He was gone quickly through the door before the Mayor could move to stop him.

Audus looked at the closed door for a long minute, and then turned aimlessly away. Around him was death and destruction, and before him lay a task that was greater than he had ever dreamed possible.

He realised, with a sudden pang, that he didn't even know the name of the man who had given him life.

Lan Wright

THE LITERARY LINE-UP

Readers whose patience wears a little thin waiting for the final instalment of a serial will be pleased to know that for a few issues at least we shall be publishing complete stories each month. In the next issue we lead off with a very fine novelette by J. T. McIntosh entitled " Unit," somewhat along the plot-lines of his empathy story in August, but with a very big difference.

James White contributes an intriguing story with the unusual title of " The Lights Outside The Windows " and there is the welcome return of Australian author Frank Bryning as well as Bertram Chandler who has now made his home " down under."

Story ratings for No. 52 were :

- | | | | | | |
|----------------------------|---|---|---|---|------------------|
| 1. The City Calls | - | - | - | - | Kenneth Bulmer |
| 2. Tourist Planet (Part 1) | - | - | - | - | James White |
| 3. Press Conference | - | - | - | - | Richard Wilson |
| 4. Period of Error | - | - | - | - | George Longdon |
| 5. Three-Day Tidal | - | - | - | - | Francis G. Rayer |

During the past two years Arthur Clarke has written innumerable short stories but we believe that this is by far his best to date. Certainly it is his most outstanding story with a British setting. So far it has had several titles and was the subject of a title competition this year in America's Magazine of Fantasy and Science Fiction.

ROYAL PREROGATIVE

By Arthur C. Clarke

"When he comes aboard," said Captain Saunders, as he waited for the landing ramp to extrude itself, "what the devil shall I call him?"

There was a thoughtful silence while the navigation officer and the assistant pilot considered this problem in etiquette. Then Mitchell locked the main control panel, and the ship's multitudinous mechanisms lapsed into unconsciousness as power was withdrawn from them.

"The correct address," he drawled slowly, "is Your Royal Highness."

"Huh!" snorted the captain. "I'll be damned if I'll call anyone that!"

"In these progressive days," put in Chambers helpfully, "I believe that Sir is quite sufficient. But there's no need to worry if you forget: it's been a long time since anyone went to the Tower. Besides, this Henry isn't as tough a proposition as the one who had all the wives."

"From all accounts," added Mitchell, "he's a very pleasant young man. Quite intelligent, too. He's often been known to ask people technical questions that they couldn't answer."

Captain Saunders ignored the implications of this remark, beyond resolving that if Prince Henry wanted to know how a Field Compensation Drive generator worked, then Mitchell could do the explaining. He got gingerly to his feet—they'd been operating on half a gravity during flight, and now they were on Earth he felt like a ton of bricks—and started to make his way along the corridors that led to the lower airlock. With an oily purring, the great curving door side-stepped out of his way. Adjusting his smile, he walked out to meet the television cameras and the heir to the British throne.

The man who would, presumably, one day be Henry IX of England was still in his early twenties. He was slightly below average height, and had fine-drawn, regular features that really lived up to all the genealogical clichés. Captain Saunders, who came from Dallas and had no intention of being impressed by any Prince, found himself unexpectedly moved by the wide, sad eyes. They were eyes that had seen too many receptions and parades, they had had to watch countless totally uninteresting things, that had never been allowed to stray far from the carefully planned official routes. Looking at that proud but weary face, Captain Saunders glimpsed for the first time all the ultimate loneliness of royalty. All his dislike of that institution became suddenly trivial against its real defect: what was wrong with the Crown was the unfairness of inflicting such a burden on any human being . . .

The passageways of the *Centaurus* were too narrow to allow for general sightseeing, and it was soon clear that it suited Prince Henry very well to leave his entourage behind. Once they had begun moving through the ship, Saunders lost all his stiffness and reserve, and within a few minutes was treating the Prince exactly like any other visitor. He did not realise that one of the earliest lessons royalty has to learn is that of putting people at their ease.

"You know, Captain," said the Prince wistfully, "this is a big day for us. I've always hoped that one day it would be possible for space-ships to operate from England. But it still seems strange to have a port of our own here, after all these years. Tell me—did you ever have much to do with rockets?"

"Well, I had some training on them, but they were already on the way out before I graduated. I was lucky: some older men had to go back to school and start all over again—or else abandon space completely if they couldn't convert to the new ships."

"It made as much difference as that?"

"Oh, yes—when the rocket went, it was as big as the change from sail to steam. That's an analogy you'll often hear, by the way. There

was a glamour about the old rockets, just as there was about the old windjammers. These modern ships haven't got it. When the *Centaurus* takes off, she goes up as quietly as a balloon—and as slowly, if she wants to. But a rocket blast-off shook the ground for miles, and you'd be deaf for days if you were too near the launching apron. Still, you'll know all that from the old news-recordings."

The Prince smiled.

"Yes," he said. "I've often run through them at the Palace. I think I've watched every incident in all the pioneering expeditions. I was sorry to see the end of rockets, too. But we could never have had a space port here on Salisbury Plain—the vibration would have shaken down Stonehenge!"

"Stonehenge?" queried Saunders as he held open a hatch and let the Prince through into Hold Number 3.

"Ancient monument—one of the most famous stone circles in the world. It's really impressive, and about three thousand years old. See it if you can—it's only ten miles from here."

Captain Saunders had some difficulty in suppressing a smile. What an odd country this was: where else, he wondered, would you find contrasts like this? It made him feel very young and raw when he remembered that back home, the Alamo was ancient history, and there was hardly anything in the whole of Texas as much as 500 years old. For the first time he began to realise what tradition meant: it gave Prince Henry something that he could never possess. Poise—self-confidence, yes, that was it. And a pride that was somehow free from arrogance, because it took itself so much for granted that it never had to be asserted.

It was surprising how many questions Prince Henry managed to ask in the thirty minutes that had been allotted for his tour of the freighter. They were not the routine questions that people asked out of politeness, quite uninterested in the answers, H.R.H. Prince Henry knew a lot about spaceships and Captain Saunders felt completely exhausted when he handed his distinguished guest back to the reception committee, which had been waiting outside the *Centaurus* with well-simulated patience.

"Thank you very much, Captain," said the Prince as they shook hands in the airlock. "I've not enjoyed myself so much for ages. I hope you have a pleasant stay in England, and a successful voyage." Then his retinue whisked him away and the port officials, frustrated until now, came aboard to check the ship's papers.

"Well," said Mitchell when it was all over, "what did you think of our Prince of Wales?"

"He surprised me," answered Saunders frankly. "I'd never have guessed he was a Prince. I always thought they were kind of dumb. But hell, he knew the principles of the Field Drive! Has he ever been up in space?"

"Once, I think. Just a hop above the atmosphere in a Space Force ship. It didn't even reach orbit before it came back again—but the Prime Minister nearly had a fit. There were questions in the House and editorials in the *Times*. Everyone decided that the heir to the Throne was too valuable to risk in these newfangled inventions. So though he has the rank of Commodore in the Royal Space Force, he's never even been to the Moon."

"The poor guy," said Captain Saunders.

He had three days to burn, since it was not the Captain's job to supervise the loading of the ship or the preflight maintenance. Saunders knew skippers who hung around breathing heavily on the necks of the servicing engineers, but he wasn't that type. Besides, he wanted to see London. He had been to Mars and Venus and the Moon, but this was his first visit to England. Mitchell and Chambers filled him with useful information and put him on the monorail to London before dashing off to see their own families. They would be returning to the spaceport a day before he did, to check that everything was in order. It was a great relief having officers one could rely on so implicitly: they were unimaginative and cautious, but thoroughgoing almost to a fault. If they said that everything was ship-shape, Saunders knew he could take-off without qualms.

The sleek streamlined cylinder whistled across the carefully tailored landscape. It was so close to the ground and travelling so swiftly that one could only gather fleeting impressions of the towns and fields that flashed by. Everything, thought Saunders, was so incredibly compact, and on such a Lilliputian scale. There were no open spaces, no fields more than a mile long in any direction. It was enough to give a Texan claustrophobia—particularly a Texan who also happened to be a space-pilot.

The sharply defined edge of London appeared like the bulwarks of some walled city on the horizon. With few exceptions, the buildings were quite low—perhaps fifteen or twenty stories in height. The monorail shot through a narrow canyon, over a very attractive park, across a river that was presumably the Thames, and then came to rest with a steady, powerful surge of deceleration. A loudspeaker announced in a modest voice that seemed afraid of being overheard: "This is Paddington. Passengers for the North please remain seated." Saunders pulled his baggage down from the rack and headed out into the station.

As he made for the entrance to the Underground, he passed a book-stall and glanced at the magazines on display. About half of them, it seemed, carried photographs of Prince Henry or other members of the Royal Family. This, thought Saunders, was altogether too much of a good thing. He also noticed that all the evening papers showed the Prince entering or leaving the *Centaurus*, and bought copies to read in the subway—he begged its pardon, the “tube.”

The editorial comments had a monotonous similarity. At last, they rejoiced, England need no longer take a back seat among the space-going nations. Now it was possible to operate a space fleet without requiring a million square miles of desert: the silent, gravity-defying ships of today could land, if need be, in Hyde Park, without even disturbing the ducks on the Serpentine. Saunders found it odd that this sort of patriotism had managed to survive into the age of space, but he guessed that the British had felt it pretty badly when they'd had to borrow launching sites from the Australians, the Americans and the Russians.

The London Underground was still, after a century and a half the best transport system in the world and it deposited Saunders safely at his destination less than ten minutes after he had left Paddington. In ten minutes the *Centaurus* could have covered 50,000 miles; but space, after all, was not quite so crowded as this. Nor were the orbits of spacecraft so tortuous as the streets Saunders had to negotiate to reach his hotel. All attempts to straighten out London had failed dismally, and it was fifteen minutes before he completed the last hundred yards of his journey.

He stripped off his jacket and collapsed thankfully on his bed. Three quiet, carefree days all to himself: it seemed too good to be true.

It was. He had barely taken a deep breath when the phone rang.

“Captain Saunders? I'm so glad we found you. This is the B.B.C. We have a programme called “In Town To-night” and we were wondering . . .”

The thud of the airlock door was the sweetest sound Saunders had heard for days. Now he was safe: nobody could get at him here in his armoured fortress, which would soon be far out in the freedom of space. It was not that he had been treated altogether badly: on the contrary, he had been treated altogether too well. He had made four (or was it five?) appearances on various TV programmes; he had been to more parties than he could remember; he had acquired several hundred new friends and (the way his head felt now) forgotten all his old ones.

"Who started the rumour," he said to Mitchell as they met at the port, "that the British were reserved and standoffish? Heaven help me if I ever meet a demonstrative Englishman."

"I take it," replied Mitchell, "that you had a good time."

"Ask me tomorrow," Saunders replied. "I'll be at home then."

"I saw you on that quiz programme last night," remarked Chambers. "You looked pretty ghastly."

"Thank you: that's just the sort of sympathetic encouragement I need at the moment. I'd like to see you think of a synonym for *jeune* after you'd been up till three in the morning."

"Vapid," replied Chambers promptly.

"Inspid," said Mitchell, not to be outdone.

"You win. Let's have those overhaul schedules and see what the engineers have been up to."

Once seated at the control desk, Captain Saunders quickly became his usual efficient self. He was home again, and his training took over. He knew exactly what to do, and would do it with automatic precision. To right and left of him, Mitchell and Chambers were checking their instruments and calling the control tower.

It took them an hour to carry out the elaborate preflight routine. When the last signature had been attached to the sheet of instructions, and the last red light on the monitor panel had turned to green, Saunders flopped back in his seat and lit a cigarette. They had ten minutes to spare before take-off.

"One day," he said, "I'm going to come to England incognito to find what makes the place tick. I don't understand how you can crowd so many people onto one little island without it sinking."

"Huh," snorted Chambers. "You should see Holland. That makes England look as wide open as Texas."

"And then there's this Royal Family business. Do you know wherever I went everyone kept asking me how I got on with Prince Henry, what we'd talked about, didn't I think he was a fine guy, and so on. Frankly, I got fed up with it. I can't imagine how you've managed to stand it for a thousand years."

"Don't think that the Royal Family's been popular all the time," replied Mitchell. "Remember what happened to Charles the First? And some of the things we said about the early Georges were quite as rude as the remarks your people made later."

"We just happen to like tradition," said Chambers. "We're not afraid to change when the time comes, but as far as the Royal Family is concerned . . . well, it's unique and we're rather fond of it. Just the way you feel about the Statue of Liberty."

"Not a fair example. I don't think it's right to put human beings up on a pedestal and treat them as if they're—well, minor deities. Look at Prince Henry, for instance. Do you think he'll ever have a chance of doing the things he really wants to do. I saw him three times on TV when I was in London. The first time he was opening a new school somewhere ; then he was giving a speech to the Worshipful Company of Fishmongers at the Guildhall (I swear I'm not making that up) and finally he was receiving an address of welcome from the Mayor of Podunk, or whatever your equivalent is." ("Wigan," interjected Mitchell). "I think I'd rather be in jail than live that sort of life. Why can't you leave the poor guy alone?"

For once, neither Mitchell nor Chambers rose to the challenge. Indeed, they maintained a somewhat frigid silence. That's torn it, thought Saunders. I should have kept my big mouth shut ; now I've hurt their feelings. I should have remembered that advice I read somewhere : "The British have two religions : cricket and the Royal Family. Never attempt to criticize either."

The awkward pause was broken by the radio from the spaceport controller.

"Control to *Centaurus*. Your flight lane clear. O.K. to lift."

"Takeoff programme starting . . . now !" replied Saunders, throwing the master switch. Then he leaned back, his eyes taking in the entire control panel, his hands clear of the board but ready for instant action.

He was tense but completely confident. Better brains than his—brains of metal and crystal and flashing electronic streams—were in charge of the *Centaurus* now. If necessary, he could take command, but he had never yet lifted a ship manually and never expected to do so. If the automatics failed he would cancel the takeoff and sit here on Earth until the fault had been cleared.

The main field went on, and weight ebbed from the *Centaurus*. There were protesting groans from the ship's hull and structure as the strains redistributed themselves. The curved arms of the landing cradle were carrying no load now ; the lightest breath of wind would carry the freighter away into the sky.

Control called from the tower : "Your weight now zero : check calibration."

Saunders looked at his meters. The upthrust of the field should now exactly equal the weight of the ship, and the meter readings should agree with the totals on the loading schedules. In at least one instance this check had revealed the presence of a stowaway on board a spaceship—the gauges were as sensitive as that.

"One million, five hundred and sixty thousand, four hundred and twenty kilograms," Saunders read off from the thrust indicators. "Pretty good—it checks to within fifteen kilos. The first time I've been underweight though. You could have taken on some more candy for the plump girl-friend of yours in Port Lowell, Mitch."

The assistant pilot gave a rather sickly grin. He had never quite lived down a blind date on Mars which had given him a completely unwarranted reputation for preferring statuesque blondes.

There was no sense of motion, but the *Centaurus* was now climbing up into the summer sky as her weight was not only neutralized but reversed. To the watchers below, she would be a swiftly mounting star, a silver globule falling through and beyond the clouds. Around her, the blue of the atmosphere was deepening into the eternal darkness of space.

Like a bead moving along an invisible wire, the freighter was following the pattern of radio waves that would lead her from world to world.

This, thought Captain Saunders, was his twenty-sixth takeoff from Earth. But the wonder would never die, nor would he ever outgrow the feeling of power it gave him to sit here at the control panel, the master of forces beyond even the dreams of Mankind's ancient gods. No two departures were ever the same: some were into the dawn, some towards the sunset, some above a cloud-veiled Earth, some through clear and sparkling skies. Space itself might be unchanging, but on Earth the same pattern never recurred, and no man ever looked twice at the same landscape or the same sky. Down there the Atlantic waves were marching eternally towards Europe, and high above them—but so far below the *Centaurus*—the glittering bands of cloud were advancing before the same winds. England began to merge into the continent, and the European coastline became foreshortened and misty as it sank hull-down beyond the curve of the world. At the frontier of the west, a fugitive stain on the horizon, was the first hint of America. With a single glance, Captain Saunders could span all the leagues across which Columbus had laboured half a thousand years ago.

With the silence of limitless power, the ship shook itself free from the last bonds of Earth. To an outside observer, the only sign of the energies it was expending would have been a dull red glow from the radiation fins around the vessel's equator, as the heat loss from the mass-converters was dissipated into space.

"14:03:45," wrote Captain Saunders neatly in the log. "Escape velocity attained. Course deviation negligible."

There was little point in making the entry. The modest 25,000 miles an hour which had been the almost unattainable goal of the first

astronauts had no practical significance now, since the *Centaurus* was still accelerating and would continue to gain speed for hours. But it had a profound psychological meaning. Until this moment, if power had failed, they would have fallen back to Earth. But now gravity could never recapture them : they had achieved the freedom of space, and could take their pick of the planets. In practice, of course, there would be several kinds of hell to pay if they did not pick on Mars and deliver their cargo according to plan. But Captain Saunders, like all spacemen, was fundamentally a romantic. Even on a milk-run like this he would sometimes dream of the ringed glory of Saturn, or the sombre Neptunian wastes, lit by the distant fires of the shrunken sun.

One hour after takeoff, according to the hallowed ritual, Chambers left the course computer to its own devices and produced the three glasses that lived beneath the chart table. As he drank the traditional toast to Newton, Oberth and Einstein, Saunders wondered how this little ceremony had originated. Space crews had certainly been doing it for at least sixty years : perhaps it could be traced back to the legendary rocket engineer who made the remark : "I've burnt more alcohol in sixty seconds than you've ever sold across this lousy bar."

Two hours later, the last course-correction that the tracking stations on Earth could give them had been fed into the computer. From now on, until Mars came sweeping in up ahead, they were on their own. It was a lonely thought, yet a curiously exhilarating one. Saunders savoured it in his mind. There were just the three of them here—and no one else within a million miles.

In the circumstances, the detonation of an atomic bomb could hardly have been more shattering than the modest knock on the cabin door.

Captain Saunders had never been so startled in his life. With a yelp that had already left him before he had a chance to suppress it, he shot out of his seat and rose a full yard before the ship's residual gravity field dragged him back. Chambers and Mitchell, on the other hand behaved with traditional British phlegm. They swivelled in their bucket seats, stared at the door, and then waited for their captain to take action.

It took Saunders several seconds to recover. Had he been confronted with what might be called a normal emergency, he would already have been halfway into a spacesuit. But a diffident knock on the door of the control cabin, when everyone in the ship was sitting inside, was not a fair test.

A stowaway was simply impossible. The danger had been so obvious right from the beginning of commercial spaceflight, that the most stringent precautions had been taken against it. One of his officers,

Saunders knew, would always have been on duty during loading ; no one could possibly have crept in unobserved. Then there had been the detailed preflight inspection, carried out by both Mitchell and Chambers. Finally, there was the weight check at the moment before takeoff ; that was conclusive. No, a stowaway was totally . . .

The knock on the door sounded again. Captain Saunders clenched his fists and squared his jaw. In a few minutes, he thought, some romantic idiot was going to be very, very sorry.

"Open the door, Mr. Mitchell," Saunders growled. In a single long stride, the assistant pilot crossed the cabin and jerked open the hatch.

For an age, it seemed, no one spoke. Then the stowaway, wavering slightly in the low gravity, came into the cabin. He was completely self-possessed, and looked very pleased with himself.

"Good afternoon, Captain Saunders," he said. "I must apologise for this intrusion."

Saunders swallowed hard. Then, as the pieces of the jigsaw fell into place, he looked first at Mitchell, then at Chambers. Both of his officers stared guilelessly back at him with expressions of ineffable innocence. "So that's it," he said bitterly. There was no need for any explanations : everything was perfectly clear. It was easy to picture the complicated negotiations, the midnight meetings, the falsification of records, the off-loading of non-essential cargoes that his trusted colleagues had been conducting behind his back. He was sure it was a most interesting story, but he didn't want to hear about it now. He was too busy wondering what the Manual of Space Law would have to say about a situation like this, though he was already gloomily certain that it would be of no use to him at all.

It was too late to turn back, of course : the conspirators wouldn't have made an elementary miscalculation like that. He would just have to make the best of what looked like being the trickiest voyage in his career.

He was still trying to think of something to say when the Priority signal started flashing on the radio board. The stowaway looked at his watch.

"I was expecting that," he said, "It's probably the Prime Minister. I think I'd better speak to the poor man."

Saunders thought so too.

"Very well, Your Royal Highness," he said sulkily.

It was the Prime Minister all right, and he sounded very upset. Several times he used the phrase "your duty to your people," and once there was a distinct catch in his throat as he said something

about "devotion of your subjects to the Crown." While this emotional harangue was in progress, Mitchell leaned over to Saunders, whispered in his ear :

"The old boy's on a sticky wicket, and he knows it. The people will be behind the Prince when they hear what's happened. Everybody knows he's been trying to get into space for years."

"Shush !" said Chambers. The Prince was speaking, his words winging back across the abyss that now sundered him from the island he would one day rule.

"I am sorry, Mr. Prime Minister," he said, "if I've caused you any alarm. I will return as soon as it is convenient. Someone has to do everything for the first time, and I felt the moment had come for a member of my family to leave Earth. My great-grandfathers were sailors before they became Kings of a maritime nation. This will be a valuable part of my education, and will make me more fitted to carry out my duty. Goodbye."

He dropped the microphone and walked over to the observation window—the only spaceward-looking port on the entire ship. Saunders watched him standing there, proud and lonely—but contented now.

No one spoke for a long time. Then Prince Henry tore his gaze away from the blinding splendour beyond the port, looked at Captain Saunders, and smiled.

"Where's the galley, Captain ?" he asked. "I may be out of practice but when I used to go scouting I was the best cook in my patrol."

Saunders slowly relaxed, then smiled back. The tension seemed to lift from the control room. Mars was still a long way off, but he knew now that this wasn't going to be such a bad trip after all.

Arthur C. Clarke

B U I L D - U P

This month Mr. Ballard presents a well defined story based on the question "When we get to the end — what is beyond that?" In this case it is a world-wide city state of the future where the inhabitants have never known anything else but the three dimensions of their buildings.

By J. G. Ballard

Illustrated by QUINN

Noon talk on Millionth Street :

"Sorry, these are the West millions. You want 9775335d East."

"Dollar five a cubic foot? Sell!"

"Take a westbound express to 495th Avenue, cross over to a Red-line elevator and go up a thousand levels to Plaza Terminal. Carry on south from there and you'll find it between 568th Avenue and 422nd Street."

"There's a cave-in down at KEN county! Fifty blocks by twenty by thirty levels."

"Listen to this—'PYROS STAGE MASS BREAK-OUT! FIRE POLICE CORDON BAY COUNTY!'"

"It's a beautiful counter. Detects up to .005% monoxide. Cost me \$300."



"Have you seen those new intercity sleepers? Takes only ten minutes to go up 3,000 levels!"

"90 cents a foot? Buy!"

"You say the idea came to you in a dream?" the voice jabbed out. "You're sure no-one else gave it to you?"

"No," M. said flatly. A couple of feet away from him a spot-lamp threw a cone of dirty yellow light into his face. He dropped his eyes from the glare and waited as the sergeant paced over to his desk, tapped his fingers on the edge and swung round on him again.

"You talked it over with your friends?"

"Only the first theory," M. explained quietly. "About the possibility of flight."

"But you told me the other theory was more important. Why keep it quiet from them?"

M. hesitated. Outside somewhere a trolley shunted and clanged along the elevated. "I was afraid they wouldn't understand what I meant."

The sergeant laughed sourly. "You mean they would have thought you really were crazy?"

M. shifted uncomfortably on the stool. Its seat was only six inches off the floor and his thighs and lumbar muscles felt like slabs of inflamed rubber. After three hours of cross-questioning logic had faded and he groped helplessly. "The concept was a little abstract. There weren't any words for it."

The sergeant snorted. "I'm glad to hear you say it." He sat down on the desk, watched M. for a moment and then went over to him.

"Now look," he said confidentially. "It's getting late. Do you still think both theories are reasonable?"

M. looked up. "Aren't they?"

The sergeant turned angrily to the man watching in the shadows by the window.

"We're wasting our time," he snapped. "I'll hand him over to Psycho. You've seen enough, haven't you, Doc?"

The surgeon stared thoughtfully at his hands. He was a tall heavy-shouldered man, built like a wrestler, with thick coarsely-lined features.

He ambled forward, knocking back one of the chairs with his knee.

"There's something I want to check," he said curtly. "Leave me alone with him for half an hour."

The sergeant shrugged. "All right," he said, going over to the door. "But be careful with him."

When the sergeant had gone the surgeon sat down behind the desk and stared vacantly out of the window, listening to the dull hum of air through the huge 90-foot ventilator shaft which rose out of the street below the station. A few roof-lights were still burning and two hundred yards away a single policeman slowly patrolled the iron catwalk running above the street, his boots ringing across the darkness.

M. sat on the stool, elbows between his knees, trying to edge a little life back into his legs.

Eventually the surgeon glanced down at the charge sheet.

Name Franz M.

Age 20.

Occupation Student.

Address3599719 West 783rd Str., Level 549-7705-45
KNI (Local).

ChargeVagrancy.

"Tell me about this dream," he said slowly, idly flexing a steel rule between his hands as he looked across at M.

"I think you've heard everything, sir," M. said.

"In detail."

M. shifted uneasily. "There wasn't much to it, and what I do remember isn't too clear now."

The surgeon yawned. M. waited and then started to recite what he'd already repeated twenty times.

"I was suspended in the air above a flat stretch of open ground, something like the floor of an enormous arena. My arms were out at my sides, and I was looking down, floating—"

"Hold on," the surgeon interrupted. "Are you sure you weren't swimming?"

"No," M. said. "I'm certain I wasn't. All around me there was free space. That was the most important part about it. There were no walls. Nothing but emptiness. That's all I remember."

The surgeon ran his finger along the edge of the rule.

"Go on."

"Well, the dream gave me the idea of building a flying machine. One of my friends helped me construct it."

The surgeon nodded. Almost absently he picked up the charge sheet, crushed it with a single motion of his hand and flicked it into the waste basket.

"Don't be crazy, Franz!" Gregson remonstrated. They took their places in the chemistry cafeteria queue. "It's against the laws of hydrodynamics. Where would you get your bouyancy?"

"Suppose you had a rigid fabric vane," Franz explained as they shuffled past the hatchways. "Say ten feet across, like one of those composition wall sections, with handgrips on the ventral surface. And then you jump down from the gallery at the Coliscum Stadium. What would happen?"

"You'd make a hole in the floor. Why?"

"No, seriously."

"If it was large enough and held together you'd swoop down like a paper dart."

"Glide," Franz said. "Right." Thirty levels above them one of the intercity expresses roared over, rattling the tables and cutlery in

the cafeteria. Franz waited until they reached a table and sat forward, his food forgotten.

"And say you attached a propulsive unit, such as a battery-driven ventilator fan, or one of those rockets they use on the Sleepers. With enough thrust to overcome your weight. What then?"

Gregson shrugged. "If you could control the thing, you'd . . ." He frowned at Franz. "What's the word? You're always using it." "Fly."

"Basically, Mattheson, the machine is simple," Sanger, the physics lecturer, commented as they entered the Science Library. "An elementary application of the Venturi Principle. But what's the point of it? A trapeze would serve its purpose equally well, and be far less dangerous. In the first place consider the enormous clearances it would require. I hardly think the traffic authorities will look upon it with any favour."

"I know it wouldn't be practicable here," Franz admitted. "But in a large open area it should be."

"Allowed. I suggest you immediately negotiate with the Arena Garden on Level 347-25," the lecturer said whimsically. "I'm sure they'll be glad to hear about your scheme."

Franz smiled politely. "That wouldn't be large enough. I was really thinking of an area of totally free space. In three dimensions, as it were."

Sanger looked at Franz curiously. "Free space? Isn't that a contradiction in terms? Space is a dollar a cubic foot." He scratched his nose. "Have you begun to construct this machine yet?"

"No," Franz said.

"In that event I should try to forget all about it. Remember, Mattheson, the task of science is to consolidate existing knowledge, to systematize and re-interpret the discoveries of the past, not to chase wild dreams into the future."

He nodded and disappeared among the dusty shelves.

Gregson was waiting on the steps.

"Well?" he asked.

"Let's try it out this afternoon," Franz said. "We'll cut Text 5 Pharmacology. I know those Fleming readings backwards. I'll ask Dr. McGhee for a couple of passes."

He left the library and walked down the narrow, dimly-lit alley which ran behind the huge new Civil Engineering laboratories. Over 75 per cent of the student enrollment was in the architectural and engineering faculties, a meagre 2 per cent in pure sciences. Consequently the physics and chemistry libraries were housed in the oldest

quarter of the University, in two virtually condemned galvanised hutments which once contained the now closed Philosophy School.

At the end of the alley they entered the university plaza and started to climb the iron stairway leading to the next level a hundred feet above. Half-way up a white-helmeted FP checked them cursorily with his detector and waved them past.

"What did Sanger think?" Gregson asked as they stepped up into 637th Street and walked across to the Suburban Elevator station.

"He's no use at all," Franz said. "He didn't even begin to understand what I was talking about."

Gregson laughed ruefully. "I don't know whether I do."

Franz took a ticket from the automat and mounted the Down platform. An elevator dropped slowly towards him, its bell jangling.

"Wait until this afternoon," he called back. "You're really going to see something."

The floor manager at the Coliseum initialled the two passes.

"Students, eh? All right." He jerked a thumb at the long package Franz and Gregson were carrying. "What have you got there?"

"It's a device for measuring air velocities," Franz told him.

The manager grunted and released the stile.

Out in the centre of the empty arena Franz undid the package and they assembled the model. It had a broad fan-like wing of wire and paper, a narrow strutted fusilage and a high curving tail.

Franz picked it up and launched it into the air. The model glided for twenty feet and then slithered to a stop across the sawdust.

"Seems to be stable," Franz said. "We'll tow it first."

He pulled a reel of twine from his pocket and tied one end to the nose.

As they ran forward the model lifted gracefully into the air and followed them round the stadium, ten feet off the floor.

"Let's try the rockets now," Franz said.

He adjusted the wing and tail settings and fitted three fire-work display rockets into a wire bracket mounted above the wing.

The stadium was four hundred feet in diameter and had a roof two hundred and fifty high. They carried the model over to one side and Franz lit the tapers.

There was a burst of flame and the model accelerated off across the floor, two feet in the air, a bright trail of coloured smoke spitting out behind it. Its wings rocked gently from side to side. Suddenly the tail burst into flames. The model lifted stepply and looped up towards the roof, stalled just before it hit one of the pilot lights and dived down into the sawdust.

They ran across to it and stamped out the glowing cinders.

"Franz!" Gregson shouted. "It's incredible! It actually works."

Franz kicked the shattered fuselage.

"Of course it works," he said impatiently, walking away. "But as Sanger said, what's the point of it?"

"The point? It flies! Isn't that enough?"

"No. I want one big enough to hold me."

"Franz, slow down. Be reasonable. Where could you fly it?"

"I don't know," Franz said fiercely. "But there must be somewhere. Somewhere!"

The floor manager and two assistants, carrying fire extinguishers, ran across the stadium to them.

"Did you hide that match?" Franz asked quickly. "They'll lynch us if they think we're pyros."

Three afternoons later Franz took the elevator up 150 levels to 677-98, where the Precinct Estate Office had its bureau.

"There's a big development between 493 and 554 in the next sector," one of the clerks told him. "I don't know whether that's any good to you. Sixty blocks by twenty by fifteen levels."

"Nothing bigger?" Franz queried.

The clerk looked up. "Bigger? No. What are you looking for? A slight case of agoraphobia?"

Franz straightened the maps spread across the counter.

"I wanted to find an area of more or less continuous development. Two or three hundred blocks long."

The clerk shook his head and went back to his ledger. "Didn't you go to Engineering School?" he asked scornfully. "The City won't take it. 100 blocks is the maximum."

Franz thanked him and left.

A southbound express took him to the development in two hours. He left the car at the detour point and walked the 300 yards to the end of the level.

The street, a seedy but busy thoroughfare of garment shops and small business premises running through the huge ten mile thick BIR Industrial Cube, ended abruptly in a tangle of ripped girders and concrete. A steel rail had been erected along the edge and Franz looked down over it into the cavity, three miles long, a mile wide and 1,200 feet deep, which thousands of engineers and demolition workers were tearing out of the matrix of the City.

Eight hundred feet below him unending lines of trucks and rail-cars carried away the rubble and debris, and clouds of dust swirled up into the arclights blazing down from the roof.

As he watched a chain of explosions ripped along the wall on his left and the whole face suddenly slipped and fell slowly towards the floor, revealing a perfect cross-section through fifteen levels of the City.

Franz had seen big developments before, and his own parents had died in the historic QUA County cave-in ten years earlier, when three master-pillars had sheared and two hundred levels of the City had abruptly sunk 10,000 feet, squashing half a million people like flies in a concertina, but the enormous gulf of emptiness still made his imagination gape.

All around him, standing and sitting on the jutting terraces of girders, a silent throng stared down.

"They say they're going to build gardens and parks for us," an elderly man at Franz' elbow remarked in a slow patient voice. "I even heard they might be able to get a tree. It'll be the only tree in the whole County."

A man in a frayed sweat shirt spat over the rail. "That's what they always say, At a dollar a foot promises are all they can waste space on."

Below them a woman who had been looking out into the air started to simper nervously. Two bystanders took her by the arms and tried to lead her away. The woman began to thresh about and an FP came over and dragged her away roughly.

"Poor fool," the man in the sweat-shirt commented. "She probably lived out there somewhere. They gave her ninety cents a foot when they took it away from her. She doesn't know yet she'll have to pay a dollar ten to get it back. Now they're going to start charging five cents an hour just to sit up here and watch."

Franz looked out over the railing for a couple of hours and then bought a postcard from one of the vendors and walked back thoughtfully to the elevator.

He called in to see Gregson before returning to the student dormitory.

The Gregsons lived up in the west million on 985th Avenue, in a top three-room flat right under the roof. Franz had known them since his parents' death, but Gregson's mother still regarded him with a mixture of sympathy and suspicion, and as she let him in with her customary smile of welcome he noticed her glancing quickly at the detector mounted in the hall.

Gregson was in his room, happily cutting out frames of paper and pasting them onto a great rickety construction that vaguely resembled Franz' model.

"Hullo, Franz. What was it like?"

Franz shrugged. "Just a development. Worth seeing."

Gregson pointed to his construction. "Do you think we can try it out there?"

"We could do." Franz sat down on the bed, picked up a paper dart lying beside him and tossed it out of the window. It swam out into the street, lazied down in a wide spiral and vanished into the open mouth of a ventilator shaft.

"When are you going to build another model?" Gregson asked.

"I'm not."

Gregson swung round. "Why? You've proved your theory."

"That's not what I'm after."

"I don't get you, Franz. What are you after?"

"Free space."

"Free?" Gregson repeated.

Franz nodded. "In both senses."

Gregson shook his head sadly and snipped out another paper panel. "Franz, you're crazy."

Franz stood up. "Take this room," he said. "It's twenty feet by fifteen by ten. Extend its dimensions infinitely. What do you find?"

"A development."

"*infinitely*!"

"Non-functional space."

"Well?" Franz asked patiently.

"The concept's absurd."

"Why?"

"Because it couldn't exist."

Franz pounded his forehead in despair. "*Why* couldn't it?"

Gregson gestured with the scissors. "It's self-contradictory. Like the statement 'I am lying.' Just a verbal freak. Interesting theoretically, but it's pointless to press it for meaning." He tossed the scissors onto the table. "And anyway, do you know how much free space would cost?"

Franz went over to the bookshelf and pulled out one of the volumes. "Let's have a look at your street atlas."

He turned to the index. "This gives a thousand levels. KNI County, one hundred thousand cubic miles, population 30 million."

Gregson nodded.

Franz closed the atlas. "250 counties, including KNI, together form the 493rd Sector, and an association of 1,500 adjacent sectors comprise the 298th Local Union."

He broke off and looked at Gregson. "As a matter of interest, ever heard of it?"

Gregson shook his head. "No. How did—"

Franz slapped the atlas onto the table. "Roughly 4×10^{15} cubic Great-Miles." He leaned on the window ledge. "Now tell me : what lies beyond the 298th Local Union?"

"Other Unions, I suppose," Gregson said. "I don't see your difficulty."

"And beyond those?"

"Further ones. Why not?"

"Forever?" Franz pressed.

"Well, as far as forever is."

"The great street directory in the old Treasury Library on 247th Street is the largest in the County," Franz said. "I went down there this morning. It occupies three complete levels. Millions of volumes. But it doesn't extend beyond the 598th Local Union. No-one there had any idea what lay further out. Why not?"

"Why should they?" Gregson asked. "Franz, what are you driving at?"

Franz walked across to the door. "Come down to the Bio-History Museum. I'll show you."

The birds perched on humps of rock or waddled about the sandy paths between the water pools.

"'Archaeopteryx,'" Franz read off one of the cage indicators. The bird, lean and mildewed, uttered a painful croak when he fed a handful of beans to it.

"Some of these birds have the remnants of a pectorial girdle," Franz said. "Minute fragments of bone embedded in the tissues around their rib cages."

"Wings?"

"Dr. McGhee thinks so."

They walked out between the lines of cages.

"When does he think they were flying?"

"Before the Foundation," Franz said. "Three hundred billion years ago."

When they got outside the Museum they started down 859th Avenue. Half-way down the street a dense crowd had gathered and people were packed into the windows and balconies above the Elevated, watching a squad of Fire Police break their way into a house.

The bulkheads at either end of the block had been closed and heavy steel traps sealed off the stairways from the levels above and below. The ventilator and exhaust shafts were silent and already the air was stale and soupy.

"Pyros," Gregson murmured. "We should have brought our masks."

"It's only a scare," Franz said. He pointed to the monoxide detectors which were out everywhere, their long snouts sucking at the air. The dial needles stood safely at zero.

"Let's wait in the restaurant opposite."

They edged their way over to the restaurant, sat down in the window and ordered coffee. This, like everything else on the menu, was cold. All cooking appliances were thermostatted to a maximum 95°F., and only in the more expensive restaurants and hotels was it possible to obtain food that was at most tepid.

Below them in the street a lot of shouting went up. The FP's seemed unable to penetrate beyond the ground floor of the house and had started to baton back the crowd. An electric winch was wheeled up and bolted to the girders running below the kerb, and half a dozen heavy steel grabs were carried into the house and hooked round the walls.

Gregson laughed. "The owners are going to be surprised when they get home."

Franz was watching the house. It was a narrow shabby dwelling sandwiched between a large wholesale furniture store and a new supermarket. An old sign running across the front had been painted over and evidently the ownership had recently changed. The present tenants had made a half-hearted attempt to convert the ground floor room into a cheap stand-up diner.

The FP's appeared to be doing their best to wreck everything and pies and smashed crockery were strewn all over the pavement.

"Crowd's pretty ugly," Franz said. "Do you want to move?"

"Hold on."

The noise died away and everyone waited as the winch began to revolve. Slowly the hawsers wound in and tautened, and the front wall of the house bulged and staggered outwards in rigid jerky movements.

Suddenly there was a yell from the crowd.

Franz raised his arm.

"Up there! Look!"

On the fourth floor a man and woman had come to the window and were looking down frantically. The man helped the woman out onto the ledge and she crawled out and clung to one of the waste pipes.

The crowd roared: "Pyros! You bloody pyros!"

Bottles were lobbed up at them and bounced down among the police.

A wide crack split the house from top to bottom and the floor on which the man was standing dropped and catapulted him backwards out of sight.

Then one of the lintels in the first floor snapped and the entire house tipped over and collapsed.

Franz and Gregson stood up involuntarily, almost knocking over the table.

The crowd surged forward through the cordon. When the dust had settled there was nothing left but a heap of masonry and twisted beams. Embedded in this was the battered figure of the man. Almost smothered by the dust he moved slowly, painfully trying to free himself with one hand and the crowd started roaring again as one of the grabs wound in and dragged him down under the rubble.

The manager of the restaurant pushed past Franz and leant out of the window, his eyes fixed on the dial of a portable detector.

Its needle, like all the others, pointed to zero.

A dozen hoses were playing on the remains of the house and after a couple of minutes the crowd shifted and began to thin out.

The manager switched off the detector and left the window, nodding to Franz.

"Damn Pyros. You can relax now, boys."

Franz pointed at the detector.

"Your dial was dead. There wasn't a trace of monoxide anywhere here. How do you know they were Pyros?"

"Don't worry, we knew." He smiled obliquely. "We don't want that sort of element in this neighbourhood."

Franz shrugged and sat down. "I suppose that's one way of getting rid of them."

The manager eyed Franz unpleasantly. "That's right, boy. This is a good five dollar neighbourhood." He smirked to himself. "Maybe a dollar six now everybody knows about our safety record."

"Careful, Franz," Gregson warned him when the manager had gone. "He may be right. Pyros do take over small cafes and food bars."

Franz stirred his coffee. "Dr. McGhee estimates that at least 15 per cent of the City's population are submerged Pyros. He's convinced the number's growing and that eventually the whole City will flame-out."

He pushed away his coffee. "How much money have you got?"

"On me?"

"Altogether."

"About thirty dollars."

"I've saved up fifteen," Franz said thoughtfully. "Forty-five dollars ; that should be enough for three or four weeks."

"Where?" Gregson asked.

"On a Supersleeper."

"Super—!" Gregson broke off, alarmed. "Three or four weeks ! What do you mean?"

"There's only one way to find out," Franz explained calmly. "I can't just sit here thinking. Somewhere there's free space and I'll ride the Sleeper until I find it. Will you lend me your thirty dollars?"

"But Franz—"

"If I don't find anything within a couple of weeks I'll change tracks and come back."

"But the ticket will cost . . ." Gregson searched ". . . billions. Forty-five dollars won't even get you out of the Sector."

"That's just for coffee and sandwiches," Franz said. "The ticket will be free." He looked up from the table. "You know . . ."

Gregson shook his head doubtfully. "Can you try that on the Supersleepers?"

"Why not? If they query it I'll say I'm going back the long way round. Greg, will you?"

"I don't know if I should." Gregson played helplessly with his coffee. "Franz, how can there be free space? How?"

"That's what I'm going to find out," Franz said. "Think of it as my first physics practical."

Passenger distances on the transport system were measured point to point by the application of a $=\sqrt{b^2 + c^2 + d^2}$. The actual itinerary taken was the passenger's responsibility, and as long as he remained within the system he could choose any route he liked.

Tickets were checked only at the station exits, where necessary surcharges were collected by an inspector. If the passenger was unable to pay the surcharge—10 cents a mile—he was sent back to his original destination.

Franz and Gregson entered the station on 984th Street and went over to the large console where tickets were automatically dispensed.

Franz put in a penny and pressed the destination button marked 984. The machine rumbled, coughed out a ticket, and the change slot gave him back his coin.

"Well, Greg, good-bye," Franz said as they moved towards the barrier. "I'll see you in about two weeks. They're covering me down at the dormitory. Tell Sanger I'm on Fire Duty."

"What if you don't get back, Franz?" Gregson asked. "Suppose they take you off the Sleeper?"

"How can they? I've got my ticket."

"And if you do find free space? Will you come back then?"

"If I can."

Franz patted Gregson on the shoulder reassuringly, waved and disappeared among the commuters.

He took the local Suburban Green to the district junction in the next county. The Green Line train travelled at an interrupted 70 mph and the ride took two and half hours.

At the Junction he changed to an express elevator which got him up out of the Sector in ninety minutes, at 400 mph.

Another fifty minutes in a Through-Sector Special brought him to the Mainline Terminus which served the Union.

There he bought a coffee and gathered his determination together. Supersleepers ran east and west, halting at this and every tenth station. The next arrived in seventy-two hours time, Westbound.

The Mainline Terminus was the largest station Franz had seen, a vast mile-long cavern tiered up through thirty levels. Hundreds of elevator shafts sank into the station and the maze of platforms, escalators, restaurants, hotels and theatres seemed like an exaggerated replica of the City itself.

Getting his bearings from one of the information booths Franz made his way up an escalator to Tier 15, where the Supersleepers berthed. Running the length of the station were two gigantic steel vacuum tunnels, each two hundred feet in diameter, supported at thirty foot intervals by massive concrete buttresses.

Franz walked slowly along the platform and stopped by the telescopic gangway that plunged into one of the airlocks.

270 feet true, he thought, all the way, gazing up at the curving under-belly of the tunnel. It must come out somewhere. He had forty-five dollars in his pocket, sufficient coffee and sandwich money to last him three weeks, six if he needed it, time anyway to find the City's end.

He passed the next three days nursing coffees in any of the thirty cafeterias in the station, reading discarded newspapers and sleeping in the local Red trains which ran four hour journeys round the nearest sector.

When at last the Supersleeper came in he joined the small group of fire police and municipal officials waiting by the gangway, and followed them into the train. There were two cars; a sleeper which no-one used, and a day-coach.

Franz took an inconspicuous corner seat near one of the indicator panels in the day-coach, pulled out his note-book and got ready to make his first entry.

1st Day : West 270 feet. Union 4,350.

"Coming out for a drink?" a Fire Captain across the aisle asked. "We have a ten-minute break here."

"No thanks," Franz said. "I'll hold your seat for you."

Dollar five a cubic foot. Free space, he knew, would bring the price down. There was no need to leave the train or make too many enquiries. All he had to do was borrow a paper and watch the market averages.

2nd Day : West 270 feet. Union 7,550.

"They're slowly cutting down on these Sleepers," someone told him. "Everyone sits in the day-coach. Look at this one. Seats sixty, and only four people in it. There's no need to move around. People are staying where they are. In a few years there'll be nothing left but the suburban services."

97 cents.

At an average of a dollar a cubic foot, Franz calculated idly, it's so far worth about $\$4 \times 10^{27}$.

"Going on to the next stop, are you? Well, good-bye young fellow."

Few of the passengers stayed on the Sleeper for more than three or four hours. By the end of the second day Franz' back and neck ached from the constant acceleration. He got a little exercise walking up and down the narrow corridor in the deserted sleeping coach, but had to spend most of his time strapped to his seat as the train began its long braking runs into the next station.

3rd Day : West 270 feet. Federation 657.

"Interesting, but how could you demonstrate it?"

"It's just an odd idea of mine," Franz said, screwing up the sketch and dropping it in the disposal chute. "Hasn't any real application."

"Curious, but it rings a bell somewhere."

Franz sat up. "Do you mean you've seen machines like this? In a newspaper or a book?"

"No, no. In a dream."

Every half day's run the pilot signed the log, the crew handed over to their opposites on an Eastbound sleeper, crossed the platform and started back for home.

125 cents.

\$8 x 10³³.

4th Day : West 270 feet. Federation 1,255.

"Dollar a cubic foot. You in the estate business?"

"Starting up," Franz said easily. "I'm hoping to open a new office on my own."

He played cards, bought coffee and rolls from the dispenser in the washroom, watched the indicator panel and listened to the talk around him.

"Believe me, a time will come when each union, each sector, almost I might say, each street and avenue will have achieved complete local independence. Equipped with its own power services, aerators, reservoirs, farm laboratories . . ."

The car bore.

\$6 x 10⁷⁵.

5th Day : West 270. 17th Greater Federation.

At a kiosk on the station Franz bought a clip of razor blades and glanced at the brochure put out by the local chamber of commerce.

'12,000 levels, 98 cents a foot, unique Elm Drive, fire safety records unequalled . . .'

He went back to the train, shaved and counted the thirty dollars left. He was now ninety-five million Great-Miles from the suburban station on 984th Street and he knew he couldn't delay his return much longer. Next time he'd save up a couple of thousand.

\$7 x 10¹²⁷.

7th Day : West 270. 212th Metropolitan Empire.

Franz peered at the indicator.

"Aren't we stopping here?" he asked a man three seats away. "I wanted to find out the market average."

"Varies. Anything from fifty cents a—"

"Fifty!" Franz shot back, jumping up. "When's the next stop? I've got to get off!"

"Not here, son." He put out a restraining hand. "This is Night Town. You in real estate?"

Franz nodded, holding himself back. "I thought . . ."

"Relax." He came and sat opposite Franz. "It's just one big slum. Dead areas. In places it goes as low as five cents. There are no services, no power."

It took them two days to pass through.

"City Authority are starting to seal it off," the man told him. "Huge blocks. It's the only thing they can do. What happens to the people inside I hate to think."

He chewed on a sandwich. "Strange, but there are a lot of these black areas. You don't hear about them, but they're growing. Starts in a back street in some ordinary dollar neighbourhood; a bottleneck in the sewage disposal system, not enough ash-cans, and before you know it—a million cubic miles have gone back to jungle. They try a relief scheme, pump in a little cyanide, and then—brick it up. Once they do that they're closed for good."

Franz nodded, listening to the dull humming air.

"Eventually there'll be nothing left but these black areas. The City will be one huge cemetery. What a thought?"

10th Day : East 90 feet. 755th Greater Metropolitan—

"Wait!" Franz leapt out of his seat and stared at the indicator panel.

"What's the matter?" someone opposite asked.

"East!" Franz shouted. He banged the panel sharply with his hand but the lights held. "Has this train changed direction?"

"No, it's eastbound," another of the passengers told him. "Are you on the wrong train?"

"It should be heading west," Franz insisted. "It has been for the last ten days."

"Ten days!" the man exclaimed. "Have you been on this sleeper for ten days? Where the hell are you going?"

Franz went forward and grabbed the car attendant.

"Which way is this train going? West?"

The attendant shook his head. "East, sir. It's always been going east."

"You're crazy," Franz snapped. "I want to see the pilot's log."

"I'm afraid that isn't possible. May I see your ticket, sir?"

"Listen," Franz said weakly, all the accumulated frustration of the last twenty years mounting inside him. "I've been on this . . ."

He stopped and went back to his seat.

The five other passengers watched him carefully.

"Ten days," one of them was still repeating in an awed voice.

Two minutes later someone came and asked Franz for his ticket.

"And of course it was completely in order," the police surgeon commented.

He walked over to M. and swung the spot out of his eyes. "Strangely enough there's no regulation to prevent anyone else doing the same thing. I used to go for free rides myself when I was younger, though I never tried anything like your journey."

He went back to the desk.

"We'll drop the charge," he said. "You're not a vagrant in any indictable sense, and the Transport authorities can do nothing against you. How this curvature was built into the system they can't explain. Now about yourself. Are you going to continue this search?"

"I want to build a flying machine," M. said carefully. "There must be free space somewhere. I don't know . . . perhaps on the lower levels."

The surgeon stood up. "I'll see the sergeant and get him to hand you over to one of our psychiatrists. He'll be able to help you with that dream."

The surgeon hesitated before opening the door. "Look," he began to explain sympathetically, "you can't get out of time, can you? Subjectively it's a plastic dimension, but whatever you do to yourself you'll never be able to stop that clock—" he pointed to the one on the desk "—or make it run backwards. In exactly the same way you can't get out of the City."

"The analogy doesn't hold," M. said. He gestured at the walls around them and the lights in the street outside. "All this was built by us. The question nobody can answer is : what was here before we built it?"

"It's always been here," the surgeon said. "Not these particular bricks and girders, but others before them. You accept that time has no beginning and no end. The City is as old as time and continuous with it."

"The first bricks were laid by someone," M. insisted. "There was the Foundation."

"A myth. Only the scientists believe in that, and even they don't try to make too much of it. Most of them privately admit that the Foundation Stone is nothing more than a superstition. We pay it lip service out of convenience, and because it gives us a sense of tradition. Obviously there can't have been a first brick. If there was,

how can you explain who laid it, and even more difficult, where they came from ? ”

“ There must be free space somewhere,” M. said doggedly. “ The City must have bounds.”

“ why ? ” the surgeon asked. “ It can’t be floating in the middle of nowhere. Or is that what you’re trying to believe ? ”

M. sank back limply. “ No.”

The surgeon watched M. silently for a few minutes and paced back to the desk. “ This peculiar fixation of yours puzzles me. You’re caught between what the psychiatrists call paradoxical faces. I suppose you haven’t misinterpreted something you’ve heard about the Wall ? ”

M. looked up. “ Which wall ? ”

The surgeon nodded to himself. “ Some advanced opinion maintains that there’s a wall around the City, through which it’s impossible to penetrate. I don’t pretend to understand the theory myself. It’s far too abstract and sophisticated. Anyway I suspect they’ve confused this Wall with the bricked-up black areas you passed through on the Sleeper. I prefer the accepted view that the City stretches out in all directions without limits.”

He went over to the door. “ Wait here, and I’ll see about getting you a probationary release. Don’t worry, the psychiatrists will straighten everything out for you.”

When the surgeon had left M. stared emptily at the floor, too exhausted to feel relieved. He stood up and stretched himself, walking unsteadily round the room.

Outside the last pilot lights were going out and the patrolman on the cat-walk under the roof was using his torch. A police car roared down one of the avenues crossing the street, its rails screaming. Three lights snapped on along the street and then one by one went off again.

M. wondered why Gregson hadn’t come down to the station.

Then the calendar on the desk rivetted his attention.

The date exposed on the fly leaf was the 12th August.

That was the day he had started off on his journey.

Exactly three weeks ago.

Today !

Take a westbound Green to 298th Street, cross over at the intersection and get a Red elevator up to Level 237. Walk down to the station on Route 175, change to a 438 suburban and go down to 795th Street. Take a Blue line to the Plaza, get off at 4th and 275th, turn left at the roundabout and

You’re back where you first started from. \$HELL x 10 .

J. G. Ballard

This month's main article pays tribute to Edmond Halley who did so much to further the cause of astronomy nearly three hundred years ago and whose name will be remembered as long as the comet bearing his name remains a periodical visitor in the heavens.

HALLEY — THE MAN AND THE COMET

By Donald Malcolm

This year marks the tercentenary of the birth of a man to whom astronomy owes an undying debt. He was Doctor Edmond Halley, one of the most brilliant and versatile astronomers of all time, who was born on 29th October, 1656, towards the end of the straight-laced era of Oliver Cromwell.

In the course of his lifetime, Halley made many valuable contributions to astronomy in particular and to science in general. He proved himself a very able astronomer at the early age of twenty. At that time, very little was known about the stars of the Southern Hemisphere, one reason being that all the large telescopes were to be found in Europe. Today, the position is reversed as California can boast about the world's two largest reflectors at Mt. Wilson and at Mt. Palomar. These, however, are primarily engaged in work connected with objects beyond the confines of our own Galaxy.

Lured south of the equator by the prospect of clear skies and clement weather, Halley sailed to the island of St. Helena where he set up his

24ft. long telescope. Unfortunately, clear skies were few and far between and his observations were continually interrupted by rain. Despite the weather, he succeeded in determining the co-ordinates of about 360 southern stars and so provided the first comprehensive star map for the southern regions.

During his stay, he observed a transit of Mercury across the solar disc and he saw that such a phenomenon would be useful in calculating the distance of the Sun from the Earth. Also, he was aware that transits of Venus would be even better and he suggested various methods of observation and indicated the best observation localities for the transit of 1761.

We would be able to observe transits of both the inner planets Mercury and Venus, every time they passed between us and the Sun, were it not for the fact that their orbits are inclined to the plane of the ecliptic. The imaginary line joining the centres of the Earth and the Sun sweeps out the plane of the ecliptic as the Earth circles the Sun.

Halley returned to Europe, having gained himself the title of 'austral Tycho,' an honour indeed. While in Paris, he and Cassini observed the great comet of 1680 and it may have been on that occasion that Halley's interest in comets was aroused.

Many men knew the extent of his genius, especially Isaac Newton. Had it not been for Halley's prompting and financial aid, the modest Newton might never have published his immortal work, *Principia*, which embodied the law of gravitation. Halley himself wrote the parts of the *Principia* dealing with comets.

Halley did not confine himself to any specific branch of astronomy. In his day, of course, astronomy had not so many aspects as has its modern counterpart. The year 1714 found him investigating the atmosphere in an attempt to find out its depth. The figure he arrived at, 45 miles, is well off the modern estimate of over 600 miles; it was a creditable effort none the less. Norwegian experts have suggested the figure of 600 miles after detailed observations of auroral displays which occur at heights of 70 miles above sea-level up to the fringes of the atmosphere above 600 miles. In actual fact, it would be well-nigh impossible to state the exact figure and for purposes of orbital vehicles in space, the atmosphere may be considered to end at the point where air resistance can be neglected.

In concluding his investigation, Halley stated that temperature as well as pressure should decrease with altitude and, by and large, this is born out by present-day upper atmosphere research.

Halley's great gift of accurate observation was turned to good use during the total solar eclipse of 1715. With an eye to detail, he des-

cribed vividly the Sun's atmosphere, known as the chromosphere, and the beautiful solar halo, the corona. His work in connection with this eclipse did much to advance knowledge of phenomena of the Sun, about which very little was understood. Today, with the aid of the coronagraph, the Sun's chromosphere and corona can be studied during an artificially created eclipse.

Ever industrious, Halley carried on with his work in astronomy. His study of stellar positions recorded by Ptolemy's *Almagest* brought to light an interesting point. It seemed to indicate that contemporary observers such as Tycho Brahe, had plotted certain stars in the wrong positions! Three stars, Sirius, Procyon and Arcturus, showed the largest errors.

To people of this modern space age, some of the beliefs current in Halley's time must strike us as a bit queer, to say the least. For instance it was believed that the stars were fixed on a great sphere for the purpose of lighting the Earth. Stellar configurations never altered from century to century.

Halley was not one to rush headlong at a problem. There were three lines of approach. The ancient observations could be wrong, the modern ones could be wrong, or—was it possible?—the stars had actually *moved*. Timocharis and Aristyllus (c.300 BC) and Hipparchus (c.130 BC) were responsible for the ancient observations. As they agreed on the positions of the three stars in question, Halley concluded that it was highly unlikely that the observers had all made the same mistakes. It was inadmissible to think that competent, painstaking astronomers of Brahe's calibre would make such glaring errors, but Halley had to be certain, so he checked the positions of the three stars. His findings agreed with the modern observations.

There was only one solution to the problem. Halley knew that the stars had actually moved in space and it was then logical to assume that all the other stars were also moving. They appeared to be fixed because they were at such immense distances from the Earth and their motion was only perceptible over a period of centuries. The term, 'fixed stars,' is still used today. The binary system, 61 Cygni, was the first star to have its distance measured, in 1861, by Bessel. Halley's momentous discovery, made in 1718, came to be known as the proper motion of stars.

The greatest honour that a professional astronomer can attain was conferred on Halley the year after his discovery of proper motion. He was appointed Astronomer Royal in succession to the first holder, John Flamsteed. Despite the fact that he was then 63—today, the

retiring age is 65—his enthusiasm and drive did not wane. Many a lesser man would have been content to rest on his laurels. As with his discovery of proper motion, his next achievement stemmed from his willingness to study the work of the ancient astronomers. In the course of his attempt to improve the theory of the Moon, he discovered what is known as the secular acceleration of the mean motion of the Moon. He suspected that the Moon was gradually speeding up in its orbit by comparison of ancient Babylonian observations, recorded by Hipparchus, with those of the famous Arab astronomer, Albategnius (850-930). The actual cause of the increase in velocity, about ten inches per century, was discovered by Laplace, who was born seven years after Halley's death in 1742.

In 1720, he made some comments on the obscuration of the stars by what he called 'cosmic matter.' Nothing was then known about such matter and dark patches in the heavens were considered to be regions avoided by stars. Others believed them to be 'holes in the sky.' It was not until 1847 that F. G. W. Struve, acting on Halley's theory, produced the first mathematical theory of absorption of starlight by particles of matter in interstellar space. Photographs of the dense starclouds in Sagittarius, towards the Galactic centre, and of the well known Coal Sack show good examples of matter that obscures 90 per cent of the Galaxy forever from our view. Radio astronomy seems to be the answer to this problem.

Although many scientists consider that Halley's greatest contribution to astronomy lies in the fact that he urged and helped Newton to publish his *Principia*, he will always be associated in the popular mind with Halley's Comet, while his invaluable ground work on comets in general has earned him an undying niche in the history of astronomy. In the opinion of the writer, his great work, *Synopsis Astronomiae Cometicæ*, ranks as his greatest contribution for two reasons. It was of importance from a scientific point of view for obvious reasons and it was instrumental in dispelling the shroud of superstition that surrounded comets.

The common mass of the people lived in mortal dread of comets, considered to be portents of disaster. These interesting objects have been blamed for events ranging from the occurrence of twins in the family, through massacres, to earthquakes. Great events in history have been attributed to the appearances of Halley's Comet, as we shall see later. What little knowledge about comets that existed before Halley's scientific explanations was probably suppressed or distorted by the Church, or intelligent individuals, for its own ends. The ignorance and superstitious fear of the people enabled the Church to keep them in line.

During the course of his investigations into the nature of comets, Halley noticed that the comets of 1456, 1531, 1607 and 1682 showed striking orbital similarities. It may be remembered that, in 1609, Johannes Kepler had established that the planets travelled in elliptical orbits with the Sun at one focus. Carefully, Halley subjected the elements of the orbits to a severe scrutiny and finally he announced that the four appearances were of the same comet. It revolved round the Sun in a mean period of 76 years. Halley's Comet, as it came to be known, was the first periodic comet. Being a man who firmly believed in his own ability, and not without good reason, Halley predicted that the comet would one day return to the Sun, round about 1758.

He said : ' Hence I may venture to foretell that it will return again in the Year 1758. And, if it should then so return, we shall have no reason to doubt but the rest may return also.' He did not live to see his fiery memorial draw near to the Sun on Christmas Day, 1758.

Halley showed that comets were members of the Solar System, although their orbits were highly eccentric in comparison to the almost circular planetary orbits. Regarding comets, the people thought that they shone by some mysterious inner light. Halley shattered this belief when he showed that they shone only when they were near to the Sun, by reflected light as the planets do.

The comet, a photograph of which may be seen in most astronomical textbooks, was observed on two famous occasions in history—1066 and 1456. William the Conqueror, who had aspirations to add England to Normandy, was having trouble in persuading his troops to invade England, because a great comet had appeared in the heavens. The crafty Norman, taking advantage of the superstition rampant among his men, solemnly declared that the comet indicated some kingdom's need of a king. Now, England had a king—a small point overlooked by William, who promptly invaded the country, defeated Harold at Senlac Hill, and made himself king. The English blamed their defeat and misfortunes on the comet and it is recorded that many believed the invasion would never have materialised if the comet had not turned up—a fair reflection on the times. The comet is depicted in the famous Bayeux Tapestry, which was worked by Queen Matilda, William's wife.

Another invader who knew how to turn the appearance of a comet to good use was Mohamed II, who spent his time scaring the wits out of the Christians in Europe. He saw the comet, interpreted it as a favourable sign, took Constantinople in 1456 and swept through terror-ridden Europe.

Even in 1910, when Halley's Comet made its last appearance, a panic was caused. Shortly before, it was announced that a deadly gas, cyanogen, was present in cometary tails. Earth passed through the (estimated) 19 million mile long tail and many people were convinced they would be gassed. Of course, they need not have worried. Comet tails are so attenuated that the amount of gas present in the tail of the Comet was probably less than that free in our own atmosphere.

Halley said, 'Wherefore if it should return according to our prediction about the year 1758, impartial posterity will not refuse to acknowledge that this was first discovered by an Englishman.'

It will be generally agreed that there is little chance of Halley and his great contributions to astronomy and to the dispelling of superstition being forgotten. In the light of his achievements, his nationality does not appear to be so important.

Three hundred years after his birth, his name has been given to the bay on Coats Island, Antarctica, where the advance party of the Royal Society expedition landed from the motor vessel *Tottan*.

This, and the great comet that is at every minute racing nearer from the depths of space to keep an appointment in 1986, is another assurance that Edmond Halley will always be remembered.

Donald Malcolm

PRODIGY

In our readership "Survey" finalised in July, 1955 we found that at that time only 5% were women. The percentage of women writers in this field must be even smaller and for that reason we are always more than pleased to welcome a new name to their exclusive ranks. Usually, too, they have a completely different approach to science fiction theme.

By Nita Polinda

The truck rumbled slowly to a halt, letting the broody hen shepherd her tiny chicks to safety. Then the high cab door opened and a large ruddy-faced man climbed out. Mary, watching from behind the kitchen curtain, tightened her lips. They were always the same, big and red of face. She glanced with a trace of anxiety towards the side window. Jake hadn't been able to give them much warning this time; he had been up day and night with old Sarah and the truck had passed the gulch before he had spotted it. There had been barely time for John to pile everything into the wagon and made a dash for the Spinney hideout. She hoped desperately that he had not been seen by the red-faced man now hammering at the door. One day Jake would slip up and they would have no warning. Her body shook at the thought and she bit her lip, trying desperately to control her features before going to admit the visitor.

"Good-morning, Mrs. Strass," he said. "May we have your permission to inspect your property? Divisional Eugenic Sanitary Inspection, ma'am."

Mary wondered fleetingly if anyone had ever refused permission. It somehow made the whole inhuman business worse to have this hollow pretence of manners and formality. She knew they would

search whether permission were granted or not ; and they were thorough. Oh yes, they were very thorough.

Now she turned, coldly calm. "Of course. Please go ahead."

At that moment the wagon bumped across Top-field and lurched into the farm-yard. She glanced quickly at John's face and caught his barely perceptible nod before he turned with every appearance of nonchalant ease to the red-faced man.

"Don't ever rely on electric fencing to keep fellers like this in," he called, gesturing to the young bull-calf bellowing with anger in the back of the wagon. "Had to chase this silly basket half across the creek before I caught him. Daft thing's got a load of prickly burdock on his belly. Can't keep the stupid perishers out of that patch at Back-End there. It's the salt-lick that tempts 'em. They'll not give you a thank-you for the block in the shelter if they can get at the real stuff."

The red-faced man grinned cheerfully. He liked it when people were friendly, it fidgetted him to have crying women rushing from the room when he called. The job had to be done hadn't it ? You couldn't have all those 'below required Minimum' types left alive ; the world wouldn't be fit for civilised man to live in if that happened. Every one of these darned women thought you could make an exception in their case ; just couldn't make them understand. He beckoned towards the back of the truck and a dozen uniformed men climbed out.

"Where would you like us to start ?" he asked affably. "Mind if we follow Green's plan ?" Green had been the previous Inspector for this district. They never kept the same one for more than four years ; it made for bribery and sloppy working. They didn't take many chances.

John climbed out of the wagon and walked briskly over to the visitor. "You do it whatever way you want," he said. "Look, I'll give you the keys, it'll save time and I've got this dratted animal to clean up."

The red-faced man accepted the keys and passed them to the squad leader, muttering a few instructions and then sat himself on a stone near to John who by now was busy with the calf. This was just as important a part of the job as the searching ; many a secret had been told by unsuspecting folk while chatting casually like this. There'd been nothing to report from this out-of-the-way place for years now, but you couldn't take a chance.

"How's crops this year ?" he asked. "You look pretty snug from the frosts here. Reckon you'll have a better lot of grain than down Chipperdale way—chap down there lost all his early wheat. Never seen such a thing anywhere before and I've been around plenty."

"Oh, not so bad," said John casually. He knew this polite chatter was mere persiflage; that the vital questions would presently be slipped in as if by accident. He grinned wryly at his thoughts; no Inspector ever asked any question by accident. No, they were paid to find things out and you had to be very clever to hide things from them. Oh, well, he'd give him a run for his money. If he wanted to talk crops, talk crops he would.

"Yes, we chose this slope for that very reason," he went on. "It's the chaps lower down in the valley who collect any cold air that's floating around. D'you know we're often seven degrees higher than farms only a short distance away during a cold spell; and seven degrees can make all the difference between a nip in the air and a real killer of a black frost."

"Is that so?" said the red-faced man. He liked his customers friendly but he liked to set the pace himself.

John gave him no chance to change the subject but hurried on. "Sure! And we've been developing a new strain of bearded wheat. Doesn't ripen any earlier but has a very low water-content so can stand up to a few degrees of frost better. Then the beard acts as an insulating layer; not much good if it stays cold for too long but helps with those odd rogue frosts we get in September. If our latest strain is successful I shall qualify for a grant from—"

Whatever the rest of the sentence would have been, the red-faced man gave him no time to finish, but cut straight in with: "Mmm! Breeding experiments? I see you and your wife haven't been doing anything on those lines for some time now. You had good advice? Wentworth Clinic will help you you know. Probably only slight sub-fertility. Soon get you sorted out."

The red-faced man's voice was genial but his eyes were alert. So it's come, thought John, just like it always did. He kept his gaze carefully averted from his wife's face as he replied.

"No. We had a child nine years ago. It was below the Minimum. We haven't felt like risking another sharing the same fate." The words were quietly spoken and John forced himself to look with a frank apologetic smile at the Inspector.

"How many children have you got?" he asked. The Eugenic Sanitary squads always had large families: that was how they got the job. It made them less squeamish over the task they had to perform than men who had been forced to relinquish babies to the Department.

"Me? I've got six," said the red-faced man with pride. "Look, I'll show you their photograph. There, see! That's the wife; young for forty isn't she? A real top-grader: six babies and only faulted on two Third-Grade points. Janice and Fred both born club-footed; practically perfect now of course."

John and Mary looked at the picture in silence, then John handed it back. The red-faced man leaned forward confidentially.

"You don't want to think it that way," he said persuasively. "I know it's hard, but we have to do it for the good of the community. Why, I know dozens of couples who've had top-grade babies even after two or three below par. The birth-rate's falling dangerously y'know, you mustn't let just one failure disappoint you. I'm sure a fine couple like you could produce a First-Rater if you tried. The government grant's just been put up again. What d'you say I come and find a real cute little blondie here next year? The radiation level's nearly back to normal and the hereditary factors are getting sorted out. D'you know that two-hundred years ago one baby in five was below the Minimum. The stored damage of fifty years of atom bomb tests in the twentieth century was really beginning to show then. Well, it's down to one in thirty now. And that's thanks to my Department." The Inspector was evidently warming to his subject. His face, even redder with emotion, took on a dedicated look.

"Yes," he went on, "in another eighty years we estimate that it'll be only one in each hundred will fail the tests. Just think of the hope for humanity then! And every year the standard should rise. So long as we weed out the Low-Grades now we're avoiding trouble for the generations of the future."

John made a noise in his throat. It was meant to express interest and agreement. He wished Mary would go and sit in the house on these occasions. It cost him nothing to dissemble; he knew that in his apparent amiability lay their greatest safeguard. If the Inspector became even the least suspicious he would keep his spies in the neighbourhood for weeks and that would increase a thousand-fold the risk of discovery. Yes, he could laugh and chat and lie with these vultures, but then he hadn't had to suffer having his baby literally torn from his arms as Mary had. Euthenasia was painless for the victims, but the survivors suffered for the rest of their lives.

The red-faced man went on, evidently pleased to have such an attentive audience. "Yes, I think given another two hundred years we shall have beaten this problem. Only two more centuries and we'll have humanity back to normal again—that is if the crackpots will let us." The Inspector's face took on an angry look and he spat expertly at a hovering sting-tail. "Yeah!" he went on, "there's a move in Senate to allow First-Grade sub-normals to live until they're seven and then re-grade them. Professor Johann's group are trying to wreck centuries of effort. They claim that there may be mentally above average ones among some categories of subs. If he'd seen as many

as I've seen he'd soon change his tune. The man ought to be put behind bars upsetting people with his crazy theories. Doesn't make my job any easier. If once we let the proportion of harmful gene-patterns start rising again we'll lose three centuries of good work. Next he'll be asking that persistent Faulter should be allowed to go on breeding. If a couple produce three Bottom-Grades that's enough for us : compulsory sterilisation at once and there's no further risk. If I had my way Professor Johann and his Queenstown mob would be—"

But John and Mary were never to find out what horrors the red-faced man had in store for the Professor ; at that moment the search squad reappeared. The Inspector stood up and raised his eye-brows at the leader.

"All O.K. Inspector," he said. "Not a nappy or a sticky finger mark. Only thing is," and here he stared straight at Mary, "the pedals of your piano are a bit odd, Mrs. Strass. They've been raised on struts eighteen inches off the floor ; why's that ?"

John held his breath, watching his wife's face. He'd always known that one day they'd forget something and then it would be all up with them. But Mary turned quite casually and smiled.

"Of course : it's the music lessons," she said. "I teach some of the neighbours' children. I start them when they're four and the tinies can't reach the pedals so John has raised them for me. When the older children come we just remove the struts. Are you fond of music ? Perhaps you'd like to hear some of the recordings we've made ? We've one lot in particular of which we're very proud. The music is composed and played by someone very dear to us. We think that one day he'll be famous ; do come and listen."

John marvelled at his wife's composure. She was a wonder was Mary, even offering to let them hear Benjamin's music. For weeks before the inspection she would fret and worry and now she was attacking right inside the enemy's camp.

The whole group moved into the spacious lounge of the old farm house and Mary selected a tape and started the machine. From the speaker, bell-clear, the music flowed out, its haunting, jewel-sharp quality filling the hearers, just for a moment, with a sense of the Divine. Then as the last chords died into silence the squad-leader, who had never for a moment taken his eyes off Mary, said quietly, "Thank you, Ma'am. That player was a genius. It's a long time since I have heard music like that. I should very much like to meet the pianist and congratulate him. You must be very proud of your—er—friend."

Mary looked at him. "Why he knows," she thought. And he's not going to tell. Oh, well, every man has his price and his is music ! Suddenly, as a wild hope sprang up in her breast she turned shining eyes to him. "Yes, I think you might be able to meet him, we're thinking of persuading Benjamin to give a series of concerts in Queens-town next spring."

John sat up straight with shock. Was his wife going mad ? And then he saw the look on her face and a sudden understanding illuminated his mind. Of course, Queenstown, that was where the militant Professor Johann lived. Yes, perhaps a series of concerts would solve their problems once and for all.

The red-faced man got briskly to his feet and coughed awkwardly. He liked a good band and a tune he could whistle, but this piano stuff with all its twiddles and fancy bits, that was a bit above him. Saying a hurried thank-you he gathered his squad around him like some battle-scarred old mother-hen and moved on to the next victims.

It was Spring-time and the green leaves were just breaking in fragile emerald around the old school-house porch. About fifty bored people were drifting casually into the hall to hear the concert. Not that they were really interested in concerts but this one had some new gag about the shyness of the star performer. He was going to stay out of sight during the whole performance ; and anyway it was one way of passing a wet afternoon.

The audience settled down to kill time for a couple of hours chatting and laughing. Then microphones spluttered and hissed and an oddly compelling little voice announced the first piece of music. It was rather difficult to decide what age or sex of person the voice belonged to, but its unique compelling quality silenced the coughs and the whispers until the hall was completely quiet. Then the first notes of music fell light as thistle-down upon the listening throng. They were an ordinary bunch of people, not very well versed in the classics, contented middle-brow in their tastes. But here, it was obvious, was something that defied classification, that could not be labelled high, middle or low-brow. Here was music of such heart-piercing beauty that no-one could hear and remain unmoved. The audience sat spell-bound until the last liquid note had died away and then pandemonium broke loose. This dull, ordinary group of people clapped and stamped and cheered, wild with enthusiasm, until that odd little voice broke quietly in on their adulation, announcing the next piece of music. This was greeted with the same unqualified applause, and so it continued through the whole recital. After the last piece, a short exhilarating Rondo, one listener more enterprising than the rest rushed onto

the stage and dragged back the curtains. There, in a corner, with the lid closed, stood the old school piano, still covered with a uniform layer of dust. And on a table in the centre stood the school tape-recorder. And down the road, if anyone were looking, trundled a battered old farm waggon ; and in the front seat sat a fair-haired woman, holding very carefully, five flat, round boxes.

It so happened that at this concert was present a most eminent music critic. His curiosity had been so aroused by a series of reports in the provincial press telling of this shy young pianist-composer that he felt he must make a point of hearing him. He had stayed for only the first four pieces and had then broken all precedent by driving home and tearing up his review of the week's performances at the Opera House Centenary Celebrations. In its place he had written a lyrical account of 'this new comet which has appeared in the musical firmament.' As a result the next concert, scheduled for the following week was so booked out that it had been moved from Faren Street school hall to the Municipal Concert Hall. And what is more it was promised that the mystery composer would very graciously appear in person at the end of the performance.

An hour before the concert was due to begin the hall was packed out. Eminent music critics did not indulge in such lyrical praise without good reason and the assembled company expected a musical feast—with a fascinating mystery thrown in as well.

As before the strange fey-like voice announced each item and as before the audience were delirious with praise. Drunk with the intoxicating beauty of the music they all but lifted the roof.

And then the climax ! As the last divine chords were being played with such consummate skill, the curtain rose on the brightly lit stage. There in the harsh light sitting at the huge old piano with his tiny feet stretched to the specially raised pedals sat the boy. And as the audience saw him they gasped.

He was about seven years old and hideous beyond belief. His shrunken legs were topped by a twisted ungainly body. Hunch-backed with massive head the old-young child played on. Turning his bald mis-shapen cranium to the audience he showed the twisted flattened nose, the hole-like mouth with crowded mal-formed teeth and the hopeless, boneless chin. Only the eyes had any pretensions to beauty ; they were large, brown and lustrous and alight with intelligence.

As the last note died away the audience sat dumb, stunned. The child climbed slowly and painfully from the stool and shuffled awkwardly forward. He looked at them quite without fear, only with a

sort of tender understanding, as if he felt with them the sudden upheaval of cherished beliefs that his appearance must have caused.

Then a tall distinguished-looking man strode onto the platform. "Professor Johann!" someone whispered and the whisper travelled round the hall as others recognised the staunch campaigner. The professor stepped to the front of the stage bringing the boy with him.

"Ladies and gentlemen," the rich voice boomed out, "allow me to introduce you to Benjamin Strass, pianist, composer—and child below the required Minimum."

The audience fidgeted uncomfortably, still under the spell of the music yet shocked and bewildered.

"Well?" thundered the professor. "What are you waiting for? Where's the sanitary squad? Come on now, he should have been put in the lethal chamber seven years ago!"

In the wings John and Mary stood tense, watching their son in an agony of suspense while his fate hung in the balance. The crowd murmured uneasily. Here was a problem they had no idea how to solve.

It is possible that the child's fate might have been left to Authority to settle had not a distinguished grey-haired man in the front row stood up. Mounting the platform he turned to the crowd.

"I am Doctor Sturgess," he announced. "I think that plastic surgery might help this boy and I am willing to operate. I think I might be able to give him a nose and to reshape his chin."

From the back of the hall came another voice, clear and confident. "Professor Johann, bring the child to my hospital and we'll see what we can do about that spine."

A murmur like a great sigh seemed to go up from the crowd and then the cheering started. The sudden release of tension snapped the last remnants of reserve among the audience and Benjamin stood solemnly accepting their homage. And in the wings John and Mary wept unashamedly. At last they were free. At last the sight of the Sanitary Department truck need hold no terror for them. Their son was to be allowed to live.

Nita Polinda

THIRTY-SEVEN

Time-Travel stories always have a fascination for most of us, in particular to see whether we can catch the author out in his theory. Mr. Guthrie's story below is a variation of the "man-who-killed-his-grandfather" theme—its theory presupposes the death of a character in Time. It is the after effects which are so interesting, however.

TIMES

By Alan Guthrie

The funeral was much the same as any other funeral. The day just an ordinary spring day. The cemetery was patterned after ten thousand other similar resting places and the casket which held the mortal remains of Professor Gregor Wantage just an expensive box of polished wood. To Sam Howard it seemed all wrong. There should have been terrible storms and portentous happening, earthquakes and reeling stars, sickness and bleak despair. Instead of which the world continued on its even way while Gregor made his final onslaught against the unknown.

Sam mentioned it to Armsworth on the way home.

"It depends on the point of view," said Jeff indifferently. Now that the professor was dead he had his own, personal worries. "To you, Gregor was father, mother, employer and friend. To others he was just another man, to me just the boss. When he managed to get himself killed he did more than prove his pet experiment a flop, he eliminated my only visible means of support."

It was bitter, cynical and true. No one had felt about the old man as Sam had. He changed the subject.

"There'll be money," he said. "The patents were all made out to the firm and Gregor had made a will. Things will go on much the same as before." He swallowed. "As much as they could ever be," he whispered, "without Gregor."

"Sure." Jeff felt uncomfortable in the presence of grief. He produced cigarettes, lit them, passed one to Sam and sat back, smoking and staring through the windows of the cab. "You certain about that?" he said. "About things carrying on just the same?"

"Pretty certain." Sam felt the warm sunshine on the back of his hand, thought of a polished box in cold, damp ground, shivered and filled his lungs with smoke. "Gregor told me once that the Institute was self-supporting. The income from the battery, the solar cell and the other things he invented will be sufficient to keep us in business."

"With you in charge?"

"I wouldn't know about that."

"Not much doubt, is there?" Jeff flicked ash from his cigarette. "With you and the old man so close it's obvious." He sighed with relief. "Well, it suits me. I liked the work and I liked the job and don't fancy going back into normal, industrial research." He looked at Sam. "When will we know?"

"Tomorrow morning, the lawyer's going to read the will then." Sam leaned forward. "How about dropping me off? I'll see you at the Institute tomorrow morning about ten. Suit you?"

"To the ground." Jeff stared through the windows, feeling more cheerful now that his future seemed assured. "Where shall I drop you, at the Institute?"

"No, here will do."

Jeff nodded and gave instructions to the driver. The cab swung from the main stream of traffic and came to a smooth halt at the kerb. Sam dismounted, slammed the door and stood watching as the vehicle drove away. He sighed, dropped the cigarette, trod on it and turned to see Gregor Wantage walking down the street.

Sam arrived early at the Institute the next morning. Since Gregor's death the place had been closed and he let himself into the building, passed through the main offices, the laboratories and workshops and stepped into the inner sanctum. Slowly he closed the door behind him, letting his eyes wander over the appointments of the office. Gregor hadn't used it much, he had been more interested in his private experiments than office routine, but it was luxurious and contained

a framed portrait of the professor taken when he had won the Nobel Prize.

It was a good likeness. The artist had given full justice to the high forehead, the thick, white, sweeping hair, the firm line of the jaw and the shrewd but kindly blue eyes. Even the small, crescent-shaped scar beneath the right eye had been depicted, the scar resulting from a laboratory accident. Sam didn't remember the accident, it had happened just before Gregor had sought him out and made him his assistant. It was a minor disfigurement and one easily overlooked or forgotten but it was there and it was unmistakable. Sam stared at it with mounting relief.

The man in the street had not been Gregor Wantage.

Not that he could have been, of course, Gregor Wantage was dead and buried. But the man had had the same hair, the same eyes, the same face. He had walked the same and looked the same and Sam had felt sick as he chased after him. He had spoken and the man had stared blankly at him with no trace of mutual recognition. Sam had felt like a fool, had muttered apologies and hurried away. And yet . . .

It had taken the evidence of the scar to reassure him.

Jeff arrived closely followed by the lawyer and Sam turned his mind to business.

"Has everything been settled?"

"As far as possible." The lawyer waited until they had taken seats, produced papers from his briefcase and cleared his throat. "The terms of the will are explicit and, as there are no surviving relatives and as the professor was without wife or family there should be no disputes."

He paused and Sam restrained an impulse to tell him to get on with it.

"The monies from all patents both held by the professor and the Institute will be devoted to the advancement of pure science as conducted by the Institute at the time of the professor's death. You, Mr. Howard, will be in full charge with Mr. Armsworth as your chief assistant. Both positions are permanent and subject only to the jurisdiction of the Board of Trustees as appointed by the professor. The remainder of the staff will be subject to your authority." He folded the papers, tucked them away and smiled at the two men.

"The legal details will be sent to you in due course. Are there any questions?"

"Is that all?" Sam lit a cigarette, conscious of the painted eyes of the portrait following his every move.

"Aside from several minor bequests, yes."

"About the money," said Jeff. He shrugged at the lawyer's expression. "Let's be practical about this. Saying that the Institute must continue as usual is all very well, but only if the money is there to permit it. Was the old man well-off when he died?"

"He left a great deal of money," said the lawyer. "A very great deal."

"From the inventions?" Sam looked puzzled. "I know that we are getting royalties from them, will they be sufficient?"

"In themselves, no," confessed the lawyer. "But the professor owned an immense private fortune and there are certain investments." He obviously wasn't going into details. "There will be ample funds, have no fear as to that."

"Good." Jeff grinned as he rose to his feet. "Then what are we waiting for? Let's send for the rest of the staff and get back to work." He looked defensive. "Well, it's what the old man would have wanted, isn't it?"

"Yes," admitted Sam. "Get to work on it, Jeff, and commence work where we left off." He followed the lawyer from the office, not speaking until they had emerged in the street below. "Was there anything else?"

"How do you mean, Mr. Howard?"

"Those private bequests, was there one for me?"

"No." The lawyer was sharp. "Were you expecting a legacy?"

"No." Sam bit his lip. "No, of course not." He turned and re-entered the building.

A month passed and the work of the Institute settled into routine. Jeff came into the inner office one afternoon, his hands full of papers and a crease between his eyes.

"I've been checking up on the old man's pet experiment," he said. "He seemed to be working with neutrinos, using filed equations and a theory of his own." He shook his head. "Think it's worth following up?"

"I don't know." Sam stared thoughtfully at the portrait on the wall. "Gregor spent five years to my knowledge working on his experiment and the only concrete result was his death." He leaned back in his chair. "I've been checking the figures and more money was spent on that project than any other. Just what Gregor hoped to accomplish only he knew, on that subject he was the most secretive man I ever saw."

"He was a strange one all right." Jeff helped himself to a chair. "A brilliant man, no argument about that, but strange. Remember how he used to shut himself up in his private lab for hours at a time?"

"I remember."

"Odd too, the way he selected his staff." Jeff looked thoughtful. "How did you two meet up, Sam?"

"He sent for me," said Sam shortly. "Why, I never learned. He seemed to know quite a bit about my background too, must have had me checked before contacting me." He dismissed the subject. "How are the investigations into the gravity fields progressing?"

"Slow," said Jeff. "Slow but sure. Negative results so far but that's to be expected." He stared thoughtfully at the portrait. "You know, Sam," he said suddenly. "It's just struck me. Did you notice how fast the old man was ageing just before his death?"

"No, was he?"

"I'd say he was. Seemed to be getting older all of a sudden." Jeff shrugged. "Nothing in that though, lots of men seem to be hale and hearty one day and almost senile the next. When old age comes it sometimes hits all at once." He glanced at his papers. "So you don't think we should continue the old man's experiments?"

"There doesn't seem to be any point in doing so," said Sam. "We don't know just what he was after, he left no notes or legible papers, and the equipment was so badly damaged in the explosion that it doesn't tell us much." He toyed with a pencil. "Better forget it and concentrate on other lines of research."

"As you wish." Jeff obviously didn't care one way or the other. He and Gregor had never been close so there was no inclination to carry on with the old man's work from sentimental motives. Such motives would apply to Sam but, if he didn't want to make the investigation, that was up to him.

After further small talk Jeff returned to his bench and Sam sat alone.

He didn't mind being alone, he was used to it. Before Gregor had taken him up he had followed his own path and could do so again. The difference now was that, instead of being a subordinate, he was the boss. Sam smiled up at the portrait as if sharing a secret with the painted image then, selecting papers from the pile before him, buried himself in work.

The afternoon drew towards evening, the staff went home and Jeff looked in to see if Sam was finished for the day.

"Coming?"

"No, I want to finish this work." Sam glanced at his watch. "You'd better get off, your wife will be expecting you."

"Mary expects me when she sees me." Jeff hesitated. "I could phone that I'll be late if you want me to stay and help."

"I can manage, thanks all the same. See you in the morning."

Jeff shrugged and left. Sam reached for more papers and began to work out the research programme for the coming week. The work was engrossing and he lost all account of time. He lifted his head in annoyance as the door opened, thinking that Jeff had returned.

"Hello, Sam."

It wasn't Jeff. It was Gregor Wantage.

Shock affects people in different ways. For one terrible moment Sam thought that his heart had stopped and then, with a gasping sigh, he dragged air into his lungs and felt the cold sweat of fear ooze from his body.

"Hello, Sam," repeated Gregor. He smiled, crossed the room and took a chair. The wood creaked a little as he sat down. "Busy?"

He looked just the same, even to the scar beneath his eye. In the light from the tall windows his hair shone with a soft whiteness and his eyes were as shrewd and as kind as ever. Sam looked at him, then at the portrait, then back to his visitor. His tongue seemed to have become glued to the roof of his mouth.

"How is everything going?" Gregor seemed perfectly at ease. "Did you concentrate on the non-ferrous force fields I told you about?"

"Told me about?" Sam wet his lips. Gregor had never mentioned any such thing.

"Yes. Easbach has some good ideas on that field, you'd better contact him and get him under contract before someone else snaps him up." Gregor frowned across the desk. "What's the matter?"

"You . . ." Sam fought to control himself. "You're dead."

"No I'm not." Gregor held out his hand. "I'm real enough. Feel."

"No!" For some reason Sam couldn't bring himself to touch the hand Gregor extended towards him. "You're dead I tell you! Dead!"

Gregor vanished.

The cemetery was the same as he remembered it, the same tended plots, the shrubbery, the irreverent birds chirping as they settled for the night. It was late, the last lingering light fading from the sky and, in the growing dusk the new-laid turf covering the mortal remains of Gregor Wantage showed against the deeper, richer surrounding green. Sam shivered, knowing himself to be a fool for having come all this way and yet feeling a faint relief at the sight of the undisturbed grave.

Gregor was dead. Gregor was screwed in his coffin and buried eight feet deep. Gregor simply couldn't be walking around alive and well. And yet he was.

Gravel made gritty noises beneath his shoes as Sam hurried from the cemetery. A cab answered his hail and dropped him at a bar. Brandy warmed him and more brandy dispelled some of the depression. Hallucination brought on by overwork. The hypnotic effect of the life-sized portrait and the associations of the familiar office. A trick of the brain and that was all. Sam drank his brandy and felt relief as he thought about it. And yet . . .

Mary answered the phone, her voice heavy with sleep.

"Yes?"

"Is Jeff there?"

"Who is it?"

"Sam. Sam Howard." He chewed his lip as faint noises came from the receiver, wondering if he were doing the right thing. Jeff's voice, hard and strong, came just as he was about to hang up.

"Sam?"

"That's right. Sorry to have woken you, Jeff, but there's something I want to know." Sam paused, conscious that he was speaking too fast. "Would it be possible for Gregor to still be alive?"

"What!" Jeff snorted. "Is this your idea of a joke?"

"No, Jeff, I'm serious. Could he?"

"Not a chance." Jeff's voice altered. "Why, have you being seeing things?"

"Yes, no, that is I think so." Sam dabbed at his forehead, knowing that he had said too much not to say more. "I thought I saw him in the street," he said carefully. "It was only a glimpse but it gave me a turn and set me wondering. Could there have been a mistake?"

"No." Jeff was very positive. "You didn't see him after the explosion, he was a mess. And there's no way he could have got out of the coffin either. Even if he had you wouldn't have recognised him, not the shape he was in when they screwed him down."

"I see," said Sam. "Thanks."

Jeff hung up and looked thoughtfully at his wife.

"That was Sam," he said. "My boss, he's been seeing ghosts."

"He sounded drunk to me," said Mary. She was a woman with little imagination and she didn't like being woken up.

"He'd been drinking but he wasn't drunk." Jeff lit a cigarette and squinted through the smoke. "Sounded as if he'd just had a terrific shock. Now why would he feel shocked at seeing a man who was everything to him?"

"Gregor? But he's dead isn't he?"

"Sure, but so is your mother. If you thought you'd seen her you'd be shocked, yes, but not in the same way. Certainly you wouldn't go out and try to get drunk afterwards." He blew a thoughtful smoke

ring. "I don't like Sam," he said. "And I wasn't too fond of Gregor. I don't like men who act as if they own another body and soul and I don't like a man to be so possessed."

"Sam and Gregor?"

"Yes. I'd have respected Sam more if he'd shown enough guts to tell the old man to go to hell."

"Would you have done?"

"I did," said Jeff. "Twice." He smiled at her expression. "Sorry, dear, but there it is. Job or no job a man's got to remember that he's a man, not a door-mat." He stubbed out the cigarette. "Anyway, I lost nothing by it so you needn't worry." He yawned. "What the hell? Let's go back to bed."

Half-way across town Sam finished his brandy and made his way home. He was a little unsteady on his feet but still far from being drunk. He sobered as he found the door to the apartment unlocked. He became more than sober as he saw who was waiting for him.

"Hello, Sam."

Gregor Wantage smiled from the comfort of a chair.

It was time travel, of course, Sam should have guessed it all along. The mysterious experiments, the strange reappearances of a man dead and buried, it all made perfect logical sense.

"I stumbled on it a long time ago," said Gregor. He gestured with his pipe, he always smoked a pipe. "More by luck than judgement I will admit. My first trips were short, a matter of a few years only, but they showed the way."

Sam sat and listened to the man who, according to Jeff, had been his father, mother, employer and friend. Had been? Was rather, it was difficult to think of a person in the past tense when he sat firm and very solid in the bright lighting of an apartment.

And Jeff, like all the other members of the Institute, was just about as wrong as he could be. Sam hated Gregor, had done for years because he was the better man and had made Sam feel like dirt. He had stuck with the professor from weakness and hope of a legacy and had paid for his weakness over and over again. He had been glad when the old man had died. It had meant a final release from the sarcasm, the barely hidden contempt, the constant needling and false display of affection. Now it appeared that his relief was premature. Gregor was still alive.

"It requires energy, of course," continued the professor. "Fortunately most of that energy is reclaimed when the object pushed forward in time returns to its own era. You can understand the analogy of a rubber band, Sam? I, in effect, am at one end of a piece of rubber

which stretches from the present into the future or, as you would put it, from the present into the past. My past. When the propulsion effect, to coin a phrase, weakens, then I will be snatched back to my laboratory in the Institute."

"I see." Sam nodded, the scientist in him overcoming his detestation of the professor. "That accounts for what happened before. We were talking and suddenly you vanished."

"Indeed?" Gregor tamped the tobacco in his pipe. "When was this?"

"A few hours ago, at the Institute, surely you remember?"

"I don't remember," said Gregor casually. "Probably because it has yet to happen."

"Yet to happen?" Sam was baffled. "But it has happened. I saw it."

"Your past, my future," said Gregor calmly. "To you it has already happened, to me it has yet to happen." Abruptly he changed the subject. "Have you commenced working on the machine yet?"

"No."

"Why not?" Gregor's tone held the familiar iron of command. "I distinctly remember ordering you to commence work on the project. Why have you not done so?"

"You ordered no such thing!" Sam controlled the rising of his voice. "How could you? This is only the second time we've met, the third if you count the time in the street, and you haven't explained or ordered anything."

"In the street?" Gregor frowned then smiled. "Of course, I remember now. It was during one of my early trips and was before I sent for you." Sam inwardly cringed at the tone of off-hand arrogance he had come to detest.

"But you haven't ordered anything."

"Haven't I?" Gregor became thoughtful. "No, perhaps I haven't. At least I have but you wouldn't know about it yet." He shrugged. "It's due to the variability of the temporal projector. The time jumps are not predictable to a certain degree of accuracy. To me this is the thirty-seventh time we have met, to you the third. Later the ratios will adjust themselves."

"Will they?" Sam felt that he was living in a nightmare. For the sake of something to do he rose, poured two drinks and offered one to the professor. "Scotch?"

"Don't be a fool! You know perfectly well that anything I take in this age will remain behind when I return to my own time. That is why I have to memorise all the data and particulars you collect for me." Gregor gave his deep laugh. "Will keep for me. I keep forgetting

that all this is new to you. We have had some amusing conversations at cross-purposes. You should keep a diary and record so that you can keep me up to date." He corrected himself again. "You will keep such a record."

"Will I?" Sam felt his hands beginning to quiver.

"Naturally. If you did then you must." Gregor's voice deepened. "I want no nonsense about this, Sam. You will do exactly what I order at all times and without question."

"Like hell I will!" Something, it may have been the knowledge that, despite appearances, this man was dead and buried gave Sam the strength and confidence he had lacked for years. "Don't count on it, Gregor. I'm a free agent now and don't you forget it. I've eaten dirt for long enough and don't intend to eat more. We're finished, understand! Finished!"

Gregor wasn't annoyed. Instead he was gentle, the gentleness of the cat with a mouse. He sat, calm and solid, his face wreathed in the smoke from his pipe. "Forgotten something, Sam?"

"No."

"I think you have." Gregor was still gentle. "You are in charge of the Institute at this moment only because I wished it that way. You were probably surprised that I left you no legacy but that was deliberate." Gregor knocked out his pipe, heedless of the hot ash ruining the carpet. "You are weak, Sam, I've known it for years. You depend on me for everything you have. If you go against me then I shall throw you back into the gutter where you belong."

"You can't." Sam forced himself to remain calm. "You're dead and buried and you can't touch me. I'm free, understand! Free of you at last!"

"You talk like a fool," said Gregor dispassionately. "You can't help that, of course, but I wish that you would try. Hasn't it occurred to you that I'm telling you what you will do, not what you may do? Time travel is a peculiar thing, Sam, it appears paradoxical but it isn't. For example, those inventions I perfected. I didn't really invent them at all. I learned the details in the future and learned too that I had invented them. So, when I returned, I did."

"You can't take away that money," said Sam. "Nor my job at the Institute."

"My fortune also," continued Gregor, he ignored the interruption. "Naturally I was able to learn the winners of various races, stock market valuations, things like that, so I gambled and won. Again no paradox because I had already gambled and won. I merely did what I had to do." He leaned forward. "The same as you will have to do,

Sam, and for the same reason. You will do what you have to do because it will be what you have already done."

"I'm a free agent," repeated Sam. He seemed to find comfort in the words. "I can walk out of here now and there's nothing you can do to stop me."

"You won't because you didn't." Gregor glanced at his watch. "And there is another good reason why you will do exactly as I order. You are what you are at this moment because of my will. Refuse to obey me and I will alter that will. You will be ruined. No comfortable apartment, no job at the Institute, nothing." Gregor smiled and and relaxed a little. "You wouldn't like that to happen, would you, Sam?"

"You swine!" Sam felt the quick sickness of fear as he imagined Gregor carrying out his threat. He was capable of it too and, for him it would be easy. He had merely to alter his will so that, when he died, Sam would be left with nothing.

But if he had done that then Sam wouldn't have what he now had. So Gregor hadn't altered his will after all. But if Gregor was alive, and he was, then there could be no security against him not doing it. Sam felt his head swim as he tried to resolve the paradox. Gregor wouldn't because he hadn't. He hadn't because he couldn't. He couldn't because . . . ?

Because he was dead and buried and, in law, it is impossible to murder a corpse.

"You'd like to kill me, wouldn't you, Sam?" Gregor rose and stared mockingly at the other man. "But you won't, you know. If you had then I'd know it." He sneered. "Anyway, you haven't the guts or courage to even try it."

"You think not?" Sam rose to his feet, the drink still in his hand. He was breathing hard. "You know too damn much," he said nastily. "Maybe I could tell you a few things. Like the exact hour and date of your death, for example. Shall I?"

"Some other time," said Gregor coolly. "This visit is about to terminate." His face darkened. "But I shall remember this, Sam. Believe me, I shall remember."

"Then remember this too!" Sam felt his right hand move almost of its own volition and the spirit in the glass shot towards Gregor's eyes. He yelled in rage, staggering as he clawed at his face and, as he moved backwards, his foot caught on a chair, and he toppled heavily towards the floor.

He never reached it. There was a rush of displaced air and, aside from Sam, the apartment was empty. Gregor had gone back to his

own time and place. Sam knew just what would happen when he arrived.

Gregor had been falling when he left and would still be falling when he arrived. He would reach out to save himself and grab at the high-voltage equipment in his laboratory. Jeff had already described what he would look like when they found him.

So there was no paradox, none at all. Gregor was dead and would stay dead and Sam had no need to fear him ever again. He poured himself a drink and sat down, smiling into the glass. "To freedom!" he toasted then, with the glass almost to his lips, paused. He had just remembered something. Gregor had said that this was the thirty-seventh time they had met. To Sam it was the third. There were still thirty-four visits to come.

Dully Sam wondered just how long he would be haunted by the man he had indirectly murdered.

Alan Guthrie

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Interesting facts and figures are now beginning to be published regarding the performances and costs of various research missiles exploring the upper atmosphere and beyond. This short article will bring you up-to-date on some of them.

ROCKOONS, DRAINPIPES AND JATOS

By Kenneth Johns

So many research rockets are today being used to explore the fringes of space that their cost is of paramount importance.

A dozen Viking rockets have been built and fired at a cost of £100,000 each. Built with expensive stainless steel alloys, they are superb examples of research rocket equipment: they proved successful in use: but there is no longer any need for them in the upper atmosphere exploration programme.

The Viking tests have finished. Their place will be taken by the artificial satellites, far more effective above the 200 mile space frontier.

But between 20 and 200 miles high there lies the Earth's upper atmosphere which can only be reached and its functions analysed by means of rockets. Twenty miles sets the limit at which balloons can penetrate, the density of the air then being only a hundredth of that at sea-level. Above twenty miles is still the no-man's land of theory.

Some inexpensive but reliable method had to be found to put scientific instruments into that 180 mile thick no-man's land. To find the answer, work is now being concentrated on the smaller rockets, particularly the very cheap solid-fuel types. Several methods of using them have been announced, all having some advantage over the others.

The obvious method, that adopted by a British team under the Ministry of Supply, is to use super Guy Fawkes rockets with a *slow* burning powder. The British research rockets will be capable of carrying 100 lbs. of instruments to a height of 120 miles. Nicknamed the 'Drainpipe' rockets, they will be only eighteen inches in diameter but twenty-five feet long. Most important of all, the cost of each rocket and instruments will run to only £5,000.

At least twenty of these will be used by British scientists during the International Geophysical Year, 1957-58, and test firings will begin at Woomera this year.

The Americans are still using liquid-fuel research rockets but giving them extra takeoff boost with JATO-type units. Their improved Aerobee known as the Aerobee-Hi can carry 200 lbs. of equipment to a height of 124 miles, compared with 75 miles lifting 150 lbs. in the older version. The Aerobee requires a 100 foot launching tower, not a particularly transportable item of equipment, and the cost of each Aerobee-Hi is £8,000.

The French have carried this economy drive still further. They have built a rocket very similar in size and capability to the Aerobee, calling it the Veronique. An important economy factor is the system of launching, which dispenses with the tower. In its place are four wires, attached to the rocket's fins and unwinding from a drum. These wires maintain Veronique upright until her speed is sufficient to give her aerodynamic stability.

All liquid-fuel rockets suffer from the disadvantages of using corrosive and dangerous fuels and of being extremely expensive. In order to reduce the costs of this essential type of research still further, American scientists have come up with what at first glance appears to be a botched-up piece of jerry-building.

In fact, it is an exceedingly clever compromise.

Some genius thought of sending up already existent solid fuel JATO type rockets by balloon. These cheap little rockets are then fired off, using their fast-burning fuel, when they are above the densest part of the atmosphere.

And it works.

The JATO (Jet Assisted Take-Off) units use a solid fast-burning propellant such as cordite and were originally developed for assisting

heavy aircraft to become airborne. Normally they are of little use for straight altitude climbing—they burn out whilst the rocket is still ascending through fairly dense air and they do not take advantage of the fact that the higher the speed the greater the efficiency of a rocket.

A plastic balloon and JATO rocket—known as a Rockoon—cost only £500. This is fantastically cheap by rocket men's standards.

The Rockoon, however, is no cheapjack toy. The balloon carries the rocket to an altitude of 15 miles from which it is then fired to reach 60 miles carrying about 50 lbs. of instruments to sample the air and analyse radiation.

This adds a brand new, cut-rate weapon to the scientist's arsenal. No towers are needed for launching so that the Rockoon is particularly useful for launching from ships and from small scientific bases in the wilder spots of the globe, such as those now being set up in the Antarctic. In comparison, a V-2 needed thirty men for launching.

The Rockoon's use is limited because of the drift of the balloon in strong upper-atmosphere winds and by the rotation of the balloon, making it difficult to fire the rocket in the right direction.

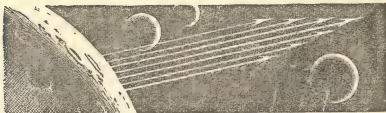
British workers are not lagging in this field and are already at work on a larger version of a rocket plus balloon combination.

A two stage JATO rocket has also been devised by the Americans. Known as the DAN, a JATO unit of the type used as the booster for the NIKE guided missile carries the main Deacon rocket to a height of 15 miles, where the Deacon kicks itself up a further 58 miles. A height of 73 miles can be attained carrying 50 lbs. of instruments.

Cheapness may be a sign of efficiency ; but from the viewpoint of the space travel enthusiast the changeover from liquid to solid fuels is a retrogression.

From solid to liquid to solid fuels—this is where we came in.

Kenneth Johns



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All kinds of possibilities are available to authors for writing about possible alien invasions from outer space, but it is not often that one centres his story around intelligent insects. James White not only presents this theme here but produces an extremely interesting angle in his plot development.

By James White

Illustrated by LEWIS

MacFall watched the helicopter drop onto the tiny landing area—its downwash threatening to blow over the nearby tents—and a lieutenant jumped to the ground. One look then was enough to dislike this unknown lieutenant immediately. The officer's face was smooth, unmarred. He put on face armour despite the battery of perimeter sprays in operation all around the clearing, and as he began moving towards the C.O.'s tent, MacFall saw him looking at the ground as though he had never seen its like before. A new boy, obviously.

It was purely an impersonal dislike, caused by the fact that MacFall was usually given the task of breaking these new boys in. This one was new all right, a mere baby. MacFall hoped that he would not also turn out to be a brat.

The lieutenant disappeared into Colonel Dawson's tent. Shortly afterwards the tent canvas almost bulged to a bellow of "MacFall!"

MacFall went in, saluted and was stood at ease. He saw that close up the lieutenant's right eye had a distinct mouse under it—probably sustained in a fight with some civilian. That type of disfigurement was common these days, too, public opinion being as it was both strong and mixed. MacFall felt himself warming slightly to this Lieutenant because of it. He looked away quickly before the other could accuse



him of staring and let his eyes wander about the tent's interior. The Colonel was still busy with papers.

Apart from a narrow, planked walk-way leading to the folding table which the C.O. used as his desk, the floor was of the same mud which covered the rest of the clearing—more unpleasant if anything, because outside the hot Madagascar sun was beginning to dry it out. It was peculiar stuff, a mixture of ashes, dirt and chemicals—the result of a chosen section of jungle being rendered sterile by napalm bombs then cooled by various chemical means until it became habitable. It stuck like treacle and it stank.

But the mud was not the worst by a long shot. The perimeter sprays which maintained a constant protective curtain around the clearing produced a stench that was beyond words. Clean words, anyway. Inside the C.O.'s tent MacFall felt that he could bite chunks out of it, the smell was so strong. That was because, as an extra safety measure, the tent canvas had been soaked with Deedee as well. Some people held that one could get used to the smell of Deedee. MacFall thought that some people lied in their teeth.

The Colonel looked up from the sheet of paper he had been studying. Under a head of close-cropped, steel-grey hair his face was quite hideous but the eyes looking out of it—soft, kindly but ‘I’ll stand no nonsense’ sort of eyes—made the horror of his features seem unimportant. He said briskly, “Sergeant, you know how quickly we were called on to set up this base here. Well, now I know the reason for all the rush.” He nodded towards the lieutenant. “You will take a search party and Lieutenant Nolan here to the other side of that hill due West of the base. You will be ready to start in ten minutes. The object of the search—”

Was the old Man slipping? MacFall thought, incredulous. He said quickly, “Excuse me, sir, but the Mark Eights haven’t arrived yet.”

“And they won’t be coming,” Colonel Dawson said. “With the exception of two, that is, which are for ambulance duty should you get into bad trouble. No, Sergeant, this time you will use your feet. Now, listen carefully . . .”

For the first few seconds MacFall was not listening carefully. He was thinking of the Mark Eight, a two-man articulated tank which could crawl through, climb over or float across anything, and mounted optical equipment and Deedee guns capable of detecting and destroying the enemy at anything up to fifty yards. He thought of riding in the relative comfort of a Mark Eight, and then of chopping and pushing a way through the jungle on foot . . .

“ . . . The Bug ship landed somewhere in this area,” the Colonel was saying. He drew a small circle on the map before him. “We are here. You will get there as quickly as possible and without advertising your approach or presence until the last possible moment—the latter being one of the reasons for the absence of Mark Eights. You see, there seems to be something unusual about this particular Bug ship . . .”

The ship had been detected over the Indian Ocean by Cape Town radar, and finding it there had been sheer luck because all attention had been centred on the Central American area where unprecedented numbers of Bug ships had appeared. But the University observers had seen it and reported its unusually slow rate of descent—no evasive

action being attempted at all—together with their deductions regarding its behaviour. Colonel Dawson's group had been despatched immediately from their home base in Rhodesia, and Lieutenant Nolan from the University complete with special instructions.

MacFall's job was to get Nolan to the grounded Bug ship. He was to obey the Lieutenant implicitly in everything. The Colonel stressed the importance of this point so much that MacFall felt slightly angry about it—he had not been made a Sergeant for insubordination, had he? The Colonel ended by stating that if this operation was a success it might very well mean the end of the war.

MacFall thought sourly that he had heard that one before. He saluted and left to form the search party, trying to think of men who were both dependable and who had a spot of dirty work coming because of some recent misdemeanor. MacFall liked to think that he was a fair man.

Not quite fifteen minutes later the party passed through the evil-smelling drizzle of the perimeter sprays and into the jungle. Ten men in extended single file, clad from head to toes in tough plastic and hung with machetes, Dee-dee guns and the special equipment required by Lieutenant Nolan. Corporal Calleria was on point with strict orders to walk silently around rather than hack noisily through obstacles whenever possible, and MacFall and the Lieutenant brought up the rear.

MacFall was pondering ways and means of using his superior officer with the greatest efficiency, so that the persons of his men and himself would not be endangered by the ignorance—whether of greater or lesser degree—of their commander. They would run enough risks without adding to them unnecessarily.

The Lieutenant was eyeing the two men ahead of them, MacFall saw. Nolan had noticed that their head and face armour was hanging backwards over their shoulders instead of being in position, and his mouth was opening to order them sharply to replace it.

MacFall said hastily, "Is this your first time on a jungle patrol, sir?" Tactfully he had refrained from asking was it his first time out of school, but implied that the Lieutenant no doubt had field experience in other theatres.

"Uh? Oh, yes," Nolan said, taking his attention off the offending soldiers. "I've been mainly on lab work."

"There may be a few tips we could give you, then," MacFall said easily. "Stuff not covered in Temperate Zone training. For instance, sir, take those two men ahead of us . . ." He went on to explain

why they and the others who were out of sight at the moment were not wearing head protection, foolhardy as this seemed.

Two minutes later the Lieutenant and himself were peeling off their head armour. Free of the sweltering hot, suffocating plastic, Nolan gave a great sigh of relief and knuckled sweat out of his eyes. He looked steadily at MacFall for several seconds, then said, "Thank you, Sergeant."

The Lieutenant, MacFall realised, might not have much experience, but he was no fool.

They trudged on towards the rising ground to the West, Nolan slapping at the mosquitos which hung in a buzzing cloud around his head. MacFall waved his away rather than trying to kill any of them—he was almost kindly disposed towards the little brutes. As he had just explained to the Lieutenant, they made it possible for the men to dispense with some of the smothering, heat-retaining armour—and in the tropics that meant an awful lot—by their mere presence.

In some obscure way the teeming insect life of the jungle could sense the approach or presence of the Bugs, that had been proved many times. MacFall thought that a few mosquito bites was a small enough price to pay for the warning system which the vicious little insects furnished.

MacFall said in disgusted tones, "This is a *lousy* war!"

It was a stock observation demanding a rejoinder which varied only in the degree of profanity qualifying it. MacFall made it only to start the Lieutenant talking so that he could find out what the other had in mind when they found the fallen Bug ship.

Nolan slapped himself on the cheek viciously—completely missing the insect which had just bitten him—and winced. He said pedantically "Not lousy, exactly, Sergeant. The species is greatly dissimilar in physical structure and habits—the little we know of them—from the common . . ." He broke off, then ended in more normal tones, "But it's a . . . a *frustrating* war, I agree."

MacFall nodded silently, thinking of the ten men ahead of them. Men with the horribly disfigured visages which marked them as veterans of this war, men who had no hope of winning it quickly because their enemy would not stand still and fight, and men who—unlike the warriors of previous conflicts—were hated rather than hero-worshipped by the civilians. Oh yes, a most frustrating war.

It was only a year ago that the first Bug ships had landed. They had come down practically everywhere, but seemed to concentrate in tropical and semi-tropical areas. Experts had witnessed many of these landings so that the world knew exactly what was happening to it

without the delays which would have caused rumours to grow. MacFall remembered the headlines : WORLD INVADED FROM SPACE ! INSECT RACE DESCENDS ON EARTH ! they had screamed, playing it up big for laughs. It had been a great joke—at first.

Dealing with this 'alien threat' would be no trouble at all, it had been thought. But for the little matter of the Bug ability to cross space the Earth technology was vastly superior. It only remained for the secret of the Bug space-drive to be learned and the medical people, who had been uneasy about the danger of possible new infections, could have their way and the aliens be destroyed. The procedure was to have been investigate, learn and destroy, but it had not worked out that way. Before anything of importance had been learned—the investigators in ever-increasing numbers became casualties. Some were killed, others blinded and all were horribly mutilated about the hands and face. Very quickly the order of the day became destroy, and hang the investigation !

But what was thought at first to be a fairly easy mopping-up operation soon turned out to be a long, frustrating and well nigh impossible task. The superb mass-destruction weapons of Earth were completely ineffective against an enemy so small, highly mobile and evenly distributed as the Bugs. Quite literally, a fly-swatter was of more use than a Hydrogen Bomb—more effective even than the hotted-up DDT sprayers which had been developed recently.

Taken singly the enemy was not a very terrifying entity. Here in Madagascar he was a silvery-grey, winged insect just under one inch in length. This was not his true colouring, MacFall knew, but that of the protective sheath which the Bugs had developed against the early and milder DDT guns. Nowadays those shells merely slowed the speed with which the Bugs died, because the present Deedee gun shot a spray of insecticide so concentrated that a misdirected burst could blister the skin of the man using it. The Bugs just shrivelled up and died. But for the three or four seconds they took to die, they fought.

It was hard to believe that mere insects could evolve fire-arms, but it was so, and in relation to their size those weapons were very powerful indeed. They shot a tiny projectile which, under favourable circumstances, could penetrate human flesh to a depth of half an inch and there explode. The charge they contained equalled that of only a few grains of gunpowder, but exploding as they did inside solid flesh and muscle a few such projectiles could disable or demoralise any man. Placed right—and the Bugs had quickly learned where to place them—they could kill.

Forcefully MacFall pushed the memory of what those microscopic bullets could do out of his mind. He ducked to avoid a thorny out-

growth which writhed across their path just at shoulder level, and tried to wipe sweat from his face with a hand which was equally sweaty ; in the jungle these plastic coveralls were murder. His fingers ran over the ridges, craters and puckers of scar tissue covering his cheek and jaw and the bristles growing through them. *Smooth*, he thought sourly, remembering razor blade and shaving soap ads he had read in the days when he could use such things ; *smooth, like a rocky beach* ! He increased pace to draw abreast of the Lieutenant.

Nolan's face was smooth, but not entirely unmarked. There was that technicoloured mouse under the Lieutenant's eye—a temporary, but still honorable scar of battle.

MacFall felt better with a bit of conversation going on, and anyway it was time the Lieutenant began telling them what he intended doing. More to start the other talking than anything else, MacFall said, "I see you ran into a door, sir. A civilian door, I suppose?"

"One of the students," Nolan said shortly. His lips tightened and he did not appear disposed to elucidate.

"But why do they do it?" MacFall asked angrily, ignoring the officer's expression. He felt very strongly on the subject. "Haven't we enough on our hands without civilians picking fights with us, or beating up men on leave, or even throwing rocks at us? Damn it, they're nothing but a pack of lousy quislings who—"

"Keep your voice down, Sergeant."

"Sorry, sir," MacFall said. They were a good mile away from the spot where the Bug ship was thought to have landed, and his voice had not been raised all that much.

"You must understand, Sergeant," Nolan said after they had struggled through some more undergrowth, "that the Bug population on Earth is spread pretty thin. It is only when the Army makes an effort to clear a certain sector that their activity increases therein—this is natural, they fight back as much as possible before withdrawing to settle somewhere else. It is also natural that civilians in this sector suffer more than usual because of this, and are inclined to blame the Army for bringing on this suffering rather than the Bugs. They dislike anybody who is trying to take warlike action against the Bugs."

"But don't they realise that the Bugs are still coming?" MacFall said in an angry whisper. "Don't they know that they can probably breed like flies, and they'll have to start killing them soon if they don't want to be eating the things with every breath they take?"

Nolan mashed a large green insect on the back of his neck with his palm, studied the remains briefly then wiped his hand on the coveralls. He said, "We know nothing of their mating or breeding habits,

Sergeant, and the number of ships arriving seems to have fallen off during the past few months. So it may take several centuries for the situation which you envisage to come about—that is, the Earth completely swamped in Bugs.” He paused then, and went on hesitantly, “There is a lot to be said for the civilian point of view.”

MacFall looked steadily at the Lieutenant, making no attempt to hide his feelings. If Nolan should be that lowest of all forms of life in the Army, a Civvy sympathiser . . .

“I disagree with their idea of just ignoring the Bugs in the hope that they’ll go away,” MacFall said doggedly. “Or of hoping that the Bugs will ignore us. Somebody has got to wipe somebody else out.”

Nolan made a non-committal noise and looked away.

MacFall went on, “I’m a pretty down-to-earth type, but I know what that spacestation we put up three years ago means—we’ll be pushing out to the Moon and planets, and eventually beyond. We’re going to look silly doing that when we can’t even handle a lot of insects on our own planet, plenty silly—”

“Just suppose,” Nolan interrupted, “we push out into space and run against somebody who thinks of us as Bugs. They are intelligent, civilised, clean insects. We don’t know what made them come here, what drove them to invade . . .” He shook his head and fell silent, his mind obviously miles away.

MacFall was glad because he did not seem to have an answer to the other’s question. How would he feel if somebody looked on him and treated him like an insect? But humans were not insects, they had civilisation, aircraft, atomic bombs. And what had the Bugs got? Answer: gauzy wings and weapons so puny that they should have only been an irritation. There was no comparison, surely.

But the Bugs had arrived in spaceships, ten foot long torpedoes which corroded away to nothing on being vacated by their crews, thus making it impossible for the humans to get even an inkling of their method of propulsion. The small size made it impossible for the Bugs to know anything of atomic energy, which required massive shielding and cumbersome remote control machinery—if they *did* know of it they probably considered it too crude to be worth bothering about. MacFall began to feel vaguely uncomfortable. For the very first time he was looking at the war from the enemy’s point of view.

He grew aware that the Lieutenant was watching him closely, with a calculating expression that was tinged with uneasiness, as if unsure of the reception his words would get.

Nolan said, “I have been trying to make this investigation, in this way, for a long time now. Finally I’ve been allowed to try it.” He

sounded apologetic but determined. "You won't like this, Sergeant, but I mean to—"

He broke off as a sudden commotion sounded from up ahead, noises of rustling and low, excited voices. A message of some sort was coming down the line. MacFall moved forward to get it, then turned back to the Lieutenant.

"There's a lion pacing us," he reported. "About twenty yards to the right." He had good control over his voice. It didn't shake a bit.

They were in a really dangerous position. The chief weapons carried by the patrol were the high-pressure insecticide sprayers, and Deedee guns were useless against the big cat. Not much better were the light revolvers which most of the men carried for use against snakes and such. A revolver bullet would simply madden the lion, and would certainly not stop it from mauling somebody to death before it died itself. MacFall swore under his breath. A lion, yet!

"Remember, no noise," Nolan said sharply.

Oh sure, MacFall said witheringly under his breath. *I'll strangle it to death with my bare hands, just like the Commandos used to do to people.*

But the Lieutenant showed suddenly that he could keep cool, and think. He said quickly, "Close the men up, Sergeant. Hurry! It is more likely to attack us strung out like this than if we are in a small, compact group. If it should attack then ten revolvers used together might kill it before it could do any damage. But the guns won't be necessary. I've read that the bravery of the lion is greatly over-rated."

MacFall said, "Yes, sir," and passed the order up for Calleria to halt so that the rest could catch up with him. He was beginning to feel respect for this Lieutenant Nolan.

As they hurried forward to join the group forming at the head of the line, Nolan said warningly, "We must be quiet. Very quiet, so as to get as close to the Bug ship as possible without detection. As well as this . . ." His tone took on a hard edge. ". . . the men must not in any circumstances use their Deedee guns should the Bugs attack us. Repeat, they must take no offensive measures whatsoever. Their protective clothing must be their only means of defence until I've found that ship and do what I have to do. Tell them that, Sergeant, and make sure they understand it."

MacFall knew that his jaw was hanging foolishly open, and that his countenance registered shocked protest together with signs of imminent mutiny. "But they won't, I mean, you can't ask them to do that," he burst out. "Listen . . ."

The tough, plastic coveralls worn by the men were designed to withstand penetration by the microscopic projectiles of the Bugs. But the Bugs had a habit of concentrating their fire on one point of the transparent—and somewhat weaker—plastic of the face section until it was worn through or placing them with deadly accuracy into the hair-thin joins in the armour.

There was also a tendency towards claustrophobia when inside the broiling hot, tightly-sealed armour. Men panicked easily unless they had the knowledge that the Bugs trying to get at them—through encountering the Deedee curtain—had only seconds to live. MacFall tried to explain all this.

"I didn't say it would be easy, Sergeant," Nolan cut in sharply. "But it has to be done. If any man shoots off his sprayer, even by accident, I will personally—"

From the jungle on their right came a low, vicious growl which rose abruptly into a full-throated roar of anger. Something strong and heavy made threshing sounds in the undergrowth. The rustling, snapping, snarling noise came suddenly closer . . .

"Sarge!" a man ahead of them shouted. "My mosquitos have left me!" He was already sealing his face armour.

MacFall had not noticed, the sound of an angry lion at close range having temporarily paralysed his faculties. But it was true. The insects native to the jungle which had been plaguing them were gone, and that meant just one thing. Even above the racket coming from the nearby brush he could hear a high, shrill angry whining. Bugs!

Nolan shouted, "Listen men! Don't use your Deedee—"

But he was too late. Where the column had bunched together about thirty yards ahead the prescribed drill for this situation was already in operation. Seven men occupied an area roughly four yards square. Two of them were on their backs spraying the air and foliage above them in a tight circle. Three others swung their weapons through an arc of 120 degrees, bathing the upper branches of the surrounding trees while the remainder, in a half-kneeling position, soaked everything at ground level and a little above. In effect the men were protected by a dome-shaped curtain of spray which was lethal to attacking Bugs. The stragglers were hurrying to join them, unlimbering their Deedee sprayers as they went.

MacFall was pleased at the speed with which his men had set up the defensive curtain, but very obviously the Lieutenant was not. He stood with his legs apart, slapping his clenched fist into an open palm, and his face was more despairing than angry. He still had not put on his face armour. MacFall grabbed his arm and gave it a most disrespectful tug.

"We've got to join the others," he said, pointing into the protective drizzle falling ahead of them. "Quickly!"

Nolan shook his head, pulling backwards. Then suddenly he shrugged and allowed MacFall to half push half drag him along.

They had gone barely three yards when there was an outbreak of shouts from up ahead, climaxed by one particularly horrible scream. MacFall swung round. A great cold hand seemed to reach in and twist his insides. The lion had charged from the undergrowth straight into the group putting up the defensive curtain, scattering them like nine-pins. The Deedee curtain had abruptly ceased to exist, two men were lying on the ground—one of them not moving—and the others, their sprayers forgotten at their feet, were shouting and floundering about in an effort to both get away from the maddened beast and to bring their revolvers to bear on it without endangering one of themselves. A sharp *crack* cut through the snarling, shouting bedlam, followed by three more in quick succession.

MacFall saw the lion rear up, saw its forepaw lash out and rip the face-armour—and almost the head—from a man trying to empty his gun into its face, and saw another man yelp and clutch at his knee as one of the bullets found the wrong mark. The lion rolled onto its side, leapt again and crashed into a thick tree. It began ripping frenziedly at the bark with pumping hind claws, making strangely pitiful sounds.

Of the four still on their feet, or knees rather, only one had retained his Deedee gun—and he was holding it, not using it, being temporarily in shock. The high-pitched, background whine of Bugs mounted suddenly in intensity and tiny flashes of light crackled on the man's plastic armour, like sequins winking on a dark dress. He came alive suddenly, turning the sprayer on himself in an effort to clear the area of his face armour. But the winking explosions moved immediately to the seals of his gauntlets. He dropped the Deedee gun. The lights crackled along the seam beside his ear seal. There was a sudden blotch of red under the transparent plastic and he went down beating at the side of his head with his fists.

MacFall had never seen such a concentrated, vicious attack. The Bugs were a solid grey cloud around the man's head, those who had been caught in the Deedee drifting heavily to the ground. Similar clouds encircled the heads of the other men. Quickly MacFall brought his own weapon to bear, twisted the nozzle to the long range jet position and let fly. Calling over his shoulder for the Lieutenant to follow he played the jet on each of his men in turn. A fine mist of spray blew back onto his face armour so that he could hardly see.

He heard Nolan shout warningly, then there was a shot. Something that felt like a charging tank hit him low in the side. MacFall saw the jungle spin crazily around him. For an instant he was looking down through tree-tops at the deep blue sky, then something hard hit the back of his head and the jungle grew suddenly dim and out of focus. But before he blacked out completely MacFall was aware that the lion was straddling him and that it was being shot at. He could hear the shots faintly and felt the sharp tug as a bullet passed through his sleeve. But everything was going really black and he didn't seem to care anymore . . .

It was very quiet when MacFall came to. When he sat up he thought that the back of his head had cracked open, and when he wiped at the red streaking his face armour the hand holding the bunch of grass he used to do it was so awkward that he wondered if it was really his own. He felt horribly weak. Going back to sleep seemed like a good idea except that the pain in his head would not let him. MacFall rolled over and pulled himself up the tree trunk which his head had hit until he was standing on his feet. About four yards away he saw part of the Lieutenant. He went over to him.

You would start shooting at it. MacFall thought, a peculiar pain growing in his chest. *So it left me and jumped you instead.* Aloud, he said, "Thank you."

From the waist down the Lieutenant's legs were protruding from underneath a very dead lion, everything else being covered by the carcass. MacFall did not particularly want to see the rest of the officer, but he couldn't leave him like that. He gripped Nolan's ankles and began to pull. The legs came suddenly to life.

"The blasted thing just flopped on top of me and died," the Lieutenant explained a few minutes later. "Before I got my breath back the Bugs arrived over us and I thought it better to pretend to be dead. They went away a few minutes ago."

MacFall said, "But why didn't they attack me? I saw them giving the other wounded a working over."

Nolan's lips twitched. "They thought you were dead, too. Man, you're covered in blood! It does all belong to the lion, I hope?" he said, showing concern.

MacFall nodded.

Nolan looked relieved. "I'll need you to carry some of my equipment. But first, we'd better see if there are any other survivors and get some Medics out here. If the walkie-talkie isn't smashed, that is."

Of the ten men in the patrol six were still alive—one who had been mauled as well as Bug-shot, just barely. All were badly holed and

bleeding about the face and neck—the Bugs having early learned that the eyes and jugular vein were vital spots in human beings. MacFall smeared the areas with coagulant cream and did his best to cover them with handkerchiefs against the swarms of flies which had begun to gather again. One man he found sitting up, swaying backwards and forwards slowly and moaning to himself. His gauntleted hands were pressed tightly against his face, which was otherwise uncovered, and MacFall could not move them to see who the man was. He did what he could, shook the man's shoulder reassuringly and turned to rejoin the Lieutenant.

" . . . And if you are coming on foot," Nolan was saying into the transmitter, " carry at least one heavy rifle or Sten. The Bugs have started using lions against us—or at least, if one is anywhere near they may madden it with those explosive particles they use and stampede it into your party as they did to ours. You'll have to watch out for that." He looked up, saw that MacFall had finished and said quickly,

" We've been held up here too long. Sergeant MacFall and I are pushing on to the Bug ship. Over and out."

The habit of obedience was strong in MacFall, but he knew that his attitude as he followed Nolan around as the Lieutenant hunted among the scattered and trampled packs was protest enough. He did not see what could be accomplished by two men armed with one Deedee gun, a magnifying glass and a box of square, plastic counters with peculiar smudge patterns on one face of them.

" Probably nothing, now," Nolan said shortly. MacFall had not realised that he had been thinking aloud.

The Lieutenant went on, " Whatever chance we had of pulling this off has gone, I expect. The men were not to use their anti-Bug sprays, for one thing. But dammit, I wasn't expecting that trick with the lion. I shouldn't have made the men crowd together like that . . ." He shook his head and swore.

" It was the right thing to do," MacFall said gently, " if it had been an ordinary cat."

The Lieutenant's face was white—almost green—and drawn. The casualties had not been a pretty sight, and in the manner of all young officers he was obviously blaming himself largely for causing them. But there was a look in Nolan's eyes that made MacFall uneasy. The Lieutenant had not hesitated in continuing with his scheduled operation though the patrol had been practically wiped out. It struck MacFall that Nolan was a bit of a fanatic, and fanatics were not careful about their own or anyone else's lives.

"What are we hoping to do?" MacFall asked some time later. They had climbed almost to the summit of the hill behind which lay the Bug ship. The vegetation had thinned out and they could now walk comfortably abreast, and mosquitos hung in a cloud about their head showing that they were in no immediate dangers from the Bugs with a capital 'B.'

Nolan sighed. "Nothing elaborate, with most of my gear ruined or left behind because of its weight, but—" He broke off suddenly, then said, "Before I tell you I want to ask you a question. Do you know that we are losing the war?"

MacFall stopped in his tracks. "But we've been given the figures," he protested. "Even now they say there is eight or nine times more humans on Earth than there are Bugs. The Bugs are just insects, and we're slowly wiping them out . . ."

"They are intelligent insects, Sergeant. There's a difference." After a moment he asked, "What happens when a new landing occurs, or when some district report what seems to be a fair concentration of Bugs?"

It seemed like a silly question for an officer to ask, but MacFall answered it anyway. When a landing or concentration of Bugs was discovered, planes were immediately rushed to the spot and proceeded to blanket-spray a wide area all round it. A piece of ground nearby was burned sterile and protective sprays set up around it, and from this temporary base the Mark Eights operated to deal with any Bugs still left alive, after which the units involved held themselves ready for notification of the next Bug landing.

"Fair enough," Nolan said. "Now, do you remember the Sahara Landing a few months ago? That seemed like a fatal mistake they made, coming down on ground with no vegetation to hide in. There were over seventy ships, each of which contained upwards of one thousand Bugs, and we were onto them in no time.

"Later, because of the bare ground we were able to see the exact extent of our success, to count their dead, in other words. Well, we got less than one ship-load altogether. The others escaped." Nolan breathed heavily. "And in wooded areas a much higher percentage must get away. We aren't winning, believe me. Of course, neither are the Bugs . . ."

The Lieutenant paused then, obviously expecting the Sergeant to make some comment. But MacFall kept his mouth shut and saved his breath for the hill, silently observing to himself that Nolan was certainly taking a long time to answer a simple question.

Nolan continued, "The best brains have arrived at the same conclusion. Our offensive weapons are ineffective and our defensive

measures impractical ; we can't go through life choking on Deedee or in sealed plastic coveralls, or even in undersea buildings like the Bug research labs—which aren't, by the way, Bug-proof. One was killed while leaving the Bermuda lab. Nobody knows how it got in, but it was found by a technician going on leave—while she was combing her hair."

MacFall shuddered in spite of himself. He wondered what the poor girl's face looked like now.

Nolan went on, "We've reached about the limit of efficiency with anti-Bug weapons, while they are just beginning to learn ways to harry us. We're terribly vulnerable, you know. I expect you read of that disaster when two three hundred-seater jetliners collided over London Airport killing the occupants, and thirty-eight others with falling wreckage. You didn't read that it was caused by three Bugs loose in the Control Tower. And there are many similar incidents, all hushed up because they show how dangerous the Bugs really are.

"Of course, I don't believe that they could wipe us out completely," Nolan said reassuringly, "but they can certainly make it impossible for us to maintain our present level of civilisation."

MacFall had the shocked, angry and embarrassed feeling of one who overhears someone preaching sedition and who is not in a position to do anything about it. But then he began to wonder, Nolan was only a Lieutenant, but these Professors had ways of knowing things, and could sometimes bypass even a full General if they needed men or equipment for a job. Suppose Nolan was telling the truth?

The thought that the Bug war was really a life or death struggle for his race, but played down for propaganda purposes, made MacFall feel angry, uncomfortable and just a little sick. He forced it grimly from his mind, then stolidly repeated his earlier question.

"What are you going to do when we find the Bug ship?"

"I thought you might have gused by now," Nolan said impatiently. His eyes said that MacFall was not a very bright specimen.

If it wasn't for the business with the lion, and the fact that you're an officer, MacFall thought angrily, *I'd put my boot in your skinny—*

"I'm going to examine the ship," Nolan went on suddenly. "We are hoping that it is damaged in some way and may not be able either to discharge all its occupants or destroy itself. If my main job turns out to be a flop then maybe we can learn something from the ship.

"But the chief purpose of this operation is to try to make peace with the Bugs."

MacFall knew that his face was not pretty. Too many Bugs had left their marks on it. But his expression when the Lieutenant's



words registered could not have helped it any. Nolan moved away from him in involuntary self-defence.

"Be realistic, Sergeant," he said hastily. "Neither side can win, most of the Big Brass admit that now, and approve of this. And remember, we killed a lot of Bugs before they started attacking us. And they very seldom molest civilians unless there is a lot of anti-Bug activity in the neighbourhood. I think we started off on the wrong foot from the beginning—"

"Are you forgetting my men back there?" MacFall burst out despite himself; he did not normally interrupt officers, but this crazy specimen . . . "Look what the Bugs did to them. Look what they did even after the big cat had finished with them—"

"Unpleasant things happen in war," Nolan put in quickly. "On both sides."

MacFall ignored that ; he found it impossible to feel *that* objective about the Bugs. He said, "Look at me, then ! Nice, aren't I ? I'll have this bogey-man kisser for the rest of my life—the Bug-shots are too deep for plastic surgery. But that doesn't matter so much, there are plenty of others the same. It's what it *feels* like.

"You've never been attacked by a swarm of Bugs, have you Lieutenant ? You don't know what it feels like when they come at you and their little bullets are exploding on your face armour half an inch away from your eyes, wearing it through. Maybe you're lucky and they get through somewhere else. They start blasting little pieces out of your cheek, neck or ear opening. It hurts, Lieutenant. It hurts horribly."

MacFall knew that his voice was rising in pitch, becoming strident with the intensity of his emotions, but he could not control it. He was not so much describing an incident as being forced to live through it again.

"It's worse in the nose. It hurts and you feel you can't breathe. When you do you bubble blood over the inside of your face armour and then you can't see, or it goes down your throat and you think you're drowning in it. What the head-shrinkers call Panic Reaction takes over then. You want to quit, you want to run away, you can't stick it any more. So you start tearing off your face armour."

MacFall shut his eyes and clenched his jaws tight. A few seconds later, in a more normal voice he added, "That's when the Bugs really go to work on you."

"I have my orders, Sergeant," Nolan said.

The Lieutenant's face through his armour looked a peculiar grey colour, MacFall thought, suddenly ashamed of himself. Scaring Nolan half to death would help nobody. He fell slightly behind the Lieutenant and kept silent, thinking about the unpleasant implications of the news that the Big Brass were so worried that they were suing the Bugs—mere insects !—for peace !

They found the Bug ship half an hour later. It was a stubby, ten-foot grey torpedo, not the mass of fluffy rust which the Bugs usually left for human investigators. But close inspection—it seemed empty of life—revealed a hole which went in about eighteen inches back of its rounded nose and came out amidships on the other side. The Lieutenant muttered something about a meteoric collision, and the mass of the Bug ship being so small that it had offered no more resistance to the body than a cobweb, so that it had merely suffered a simple

puncture without attendant damage from heat transference. MacFall who had no idea what the Lieutenant was talking about, said that he supposed that was so.

Nolan bent closer to study the hole which had been ripped in the ship. It was about six inches in diameter, MacFall saw when Nolan motioned him forward to look at it, and it gave a clear but bewildering view of the construction of the ship. Everything was too small to mean anything.

"Spider webs covered in tinsel paper," MacFall said, feeling disappointed. He did not see how anything could be learned from this ship, and said so.

"I suppose you're right," Nolan said. "But the *strength* of those spider webs . . . !" He straightened up, sighed, then went on, "Let's not be defeatist about this. I'm an entomologist, not an engineer or physicist. We've got to have experts examine this, and with greater magnification than that of my pocket lens."

MacFall hefted the walkie-talkie transmitter in his hand and looked a question.

"No," the Lieutenant said quickly. "We won't send for them yet. First we've got to move this ship as far away from here as possible, then camouflage it with branches. This is the first time one of these has remained whole after landing, probably because its self-destructive mechanisms suffered in the collision. But I'm afraid that the Bug swarm which attacked us was not merely abandoning it, they may have been on the way to get help to destroy it and will return. If we hide it they might not be able to find and destroy it before our technicians arrive to do their stuff."

MacFall had not been thinking that far ahead ; it sounded like a sensible idea. But as they lifted the large torpedo shape between them—it was incredibly light in weight—MacFall couldn't resist another dig at the Lieutenant.

"How about the Peace Talks?" he said.

A mixture of emotions pulled at the Lieutenant's face, but the strongest of them seemed to be disappointment. He really wanted to try that suicidal stunt, MacFall saw with amazement. Nolan was silent for several minutes while they settled the ship onto their shoulders then he said shortly, "There isn't anyone to talk to."

But he was wrong, very wrong.

On the surface of the torpedo between them a small dark opening had appeared no larger than a postage stamp. From it crawled a Bug at least two inches long.

Nolan gave a warning hiss. "Let it down," he whispered. "Slowly."

They eased the ship gently to the ground. MacFall hastily checked his armour fastenings, then looked up to find Nolan bent over with his face not more than six inches from the still slowly-moving Bug.

His face armour was open.

"What a really handsome insect," the Lieutenant said in a tone of pleased wonder. It had a shiny brown back with pink spots on it and a yellow underbelly—MacFall thought it loathsome. He tried to tell the Lieutenant to cover his face, but he could only mouth silently.

"A species similar to the *Hymenoptera*, you notice," Nolan went on excitedly, "and like the other Bugs we know." He paused thoughtfully, then went on, "Although the dead Bug specimens which I've examined were badly damaged by the affects of Deedee, I think I can state definitely that this one is a female of the species."

MacFall croaked, "Lieutenant, your face arm—"

"It's all right, Sergeant. It isn't wearing the grey protective membrane used by the males, and I'm positive that it isn't armed, either. We're in luck, Sergeant! Reach me the packet of plastic counters marked 'A' and a roll of tape."

MacFall, still unconvinced that the Bug—the biggest he had yet seen—was harmless, moved to obey.

"Hurry it up!" Nolan said. "And get Base on the radio. Tell them to record everything I say, and to re-broadcast it if possible just in case I'm not able to finish this."

It took a few minutes to get the C.O. on the set, then Colonel Dawson barked that they would be ready to record and re-transmit in ten minutes. Nolan filled the time by taping several of the plastic counters upright onto the hull surface, nudging the Bug in front of them with a gentle forefinger and talking, mostly to himself. MacFall did get some of it, however.

It appeared that in certain species the female insect was little more than an egg-laying machine, and even among this intelligent insect race she would tend to be cow-like, stupid. But not too stupid, Nolan was hoping. He could not understand why the Bug swarm which had attacked them earlier had left her behind. She was equipped with wings and could have travelled with them, and a female would, he was sure, be a very important individual in their culture. Why had she stayed behind?

"We'll be ready for you in three minutes," the Base operator's voice said in MacFall's ear. He leaned forward and held the transmitter mouth-piece above the Lieutenant's face, relayed the message to him, then asked quickly, "What are those plastic things?"

"There are very small pictures and symbols on them," Nolan answered abstractedly. "I don't know what exactly they show." He

grinned suddenly. "That's etymology, a somewhat different field. But if I present them in a certain sequence, and tap my fingers a certain way afterwards, I should get a reaction of some sort . . ." He trailed off into silence.

In the 'phones a voice said, "We're ready now, Sergeant. But Colonel Dawson says that if this thing goes bad on you for any reason, you're to get a specimen of the unrusted metal of the Bug ship. We'll have that much, at least."

MacFall moved the mike nearer to the Lieutenant's mouth and nodded for him to go ahead.

It seemed like a senseless game to MacFall, but despite that he felt the tension mounting within himself as the Lieutenant coaxed and edged the Bug in front of one square of plastic after another, then minutely described each movement of its six hairy legs and every twitch of its near-invisible wings. Nolan went over the same sequence seven times, sighed, and began again.

"If it understands the symbology printed on these counters," the Lieutenant muttered aside to MacFall, "and if it understands from them that we want peace with the Bugs as a primary step before less simple concepts are attempted, and if the Bugs are peacefully inclined too . . ." He took a deep breath. ". . . then when I go tap, tap-tap, tap-tap-tap with my finger it should move a leg or wriggle quickly four times to show that it understands and is agreeable—if it doesn't happen to be some Bug half-wit who doesn't know what's going on at all."

MacFall found himself grinning. "Try it again," he said. "Dees dames is all stoopid . . ."

MacFall could have bitten his tongue out. Unthinkingly he had mimicked Calleria's bowery accent—the one the Corporal had used to tell his most outrageously funny jokes in, because Corporal Calleria had once been a radio actor. MacFall swore under his breath then, thinking of how the Corporal had looked a little over half an hour ago after the lion and later the Bugs had finished with him. The two stripes on his arm had been MacFall's only means of identifying him. He felt a sudden surge of sheer hate. His fist clenched and he felt an uncontrollable urge to smash it down on the two-inch long horror crawling about among the bits of plastic, to mash out its stinking life. He didn't want to think of consequences, or weigh pros and cons like the Lieutenant. He just wanted to . . .

MacFall's arm moved out, fist upraised. Nolan looked up at him, startled. Then they both froze.

A distant, high-pitched whine filtered through the trees towards them, barely perceptible as yet but growing in volume with every second which passed. Bugs!

Nolan pointed suddenly through a break in the foliage where the curve of the hilltop showed. A dark grey patch of mist writhed in the air above it, and as MacFall watched, began curling down the slope towards them, expanding and already resolving itself into separate grey specks.

"Look!" Nolan cried. "There's thousands of them!"

"At least," MacFall said shakily. There must have been a secret Bug colony in Madagascar—one ship could not have contained one tenth of that sky-darkening swarm. Silently he went to work.

"Quickly," Nolan said, his voice strained. "Get away from the ship. Get well back. They mustn't think that we intend harm to it—*Sergeant! What are you doing?*"

MacFall had one gauntleted hand gripping the edge of the hole which the meteor had made and was tugging hard. The stuff was unbelievably tough for its weight. Panting slightly, he said, "Colonel Dawson wants a metal specimen before they get a chance to rust it . . ."

At that moment a two-foot strip of the ship's skin came away with a sound like tearing canvas. Underneath was . . . "Ugh," MacFall said, hastily turning his head away.

"What . . .?" began Nolan, then, "Grubs! The Bug young! That explains . . ." He broke off again. "Why had you to do that, dammit. We're trying to make peace, and now they'll think we're *wrecking* the ship—a ship with their young in it. If you'd half the brains God gave a louse . . ."

The Bugs were almost on them, MacFall had never known them to sound so loud. He shouted angrily, "I was acting on orders, dammit. *And cover your face!*"

"To blazes with my face!" Nolan swore. He reached up and tore his head and face armour off and flung it to the ground. "Orders," he spat out. "You stupid, senseless robot. Give me your Deedee gun! I don't trust you. *Give it to me!*"

Mad, MacFall thought wildly. These Professors were all the same. Cracked to begin with . . .

"I can handle it better than you," MacFall protested as Nolan literally tore the sprayer and its connected high-pressure tank off his back. It was no use talking. He groped in the long grass for the Lieutenant's discarded face-armour, found it, then the Bug swarm was all over them.

He saw Nolan holding the Deedee gun high above his head. Heard him shout, "Look! You know what this is!" and hurl the sprayer away from him with all his strength. Then he saw a tiny spurt of red appear on the Lieutenant's cheek, and another. Two little red explosion burst on his forehead and another on his ear. He saw Nolan shrug his shoulders desperately as high around his ears as he could, clap a hand to his eyes and try to wrap as much as possible of his other hand and arm around his head for protection. In that particularly contorted position the Lieutenant rolled to the ground. He seemed to be trying to wriggle into it like a worm. MacFall turned away quickly. He had troubles of his own.

The Bugs hung so thickly around him that he could barely see the jungle, and the outer surface of his face armour was a continual sparkle as Bug explosive bullets wore at it, pitting it deeply and making it even harder to see. Where the plastic touched his skin, the shock of the tiny explosions were transmitted through as a succession of tiny, stinging slaps. At this rate MacFall knew that he had about five minutes before he would be in the same position as the Lieutenant.

Desperately he lashed out at the almost solid swarm with Nolan's discarded helmet, which was still in his hand. Some of the Bugs dropped spiralling to the ground—but it was nothing, a cupful of water out of an ocean. Never had he known them to attack so viciously, so suicidally and in such numbers.

He felt panic rising in him, and a feeling of choking—something had happened to his air-filter. He was boiling in his own sweat and he couldn't breathe! Grimly MacFall fought these feelings, knowing that they were in his mind only, lies. He had to think, keep his head. He was startled to find that he was repeating a phrase over and over to himself, sometimes whispering it, sometimes shouting it. "*Don't take off your face armour. Don't take off your face armour . . .*"

There was burning stab in the back of his neck, they had broken through from the back. MacFall gritted his teeth as the stab was repeated. He fumbled out a field dressing, slapping it on the puncture and pressed down on the adhesive. It wouldn't stop the Bug weapons, but it would cut down the penetrative capacity of the bullets—for a while.

But he had to *do* something. Nothing that MacFall might do would save him, he knew that now. But he did not want to curl up into a ball and let the Bugs blow little pieces out of him until there was nothing left. No matter how useless he had to try something. But what?

Hundreds of microscopic bullets were bursting on the armour now—with a sound like the crackling of dry burning twigs—and the plastic

in front of his eyes was a deeply-pitted blur. Suddenly he saw the grey shine of metal in the underbrush ten yards away. The Deedee gun? He stumbled towards it.

The Bugs were thick around his head and above the huddled, twitching form of the Lieutenant but above the ship with its outsize Queen Bug they were a whining, seething, near-solid mass. Even if the sprayer was damaged, MacFall thought desperately, he could throw it against the ship and burst its pressure tank. That would certainly kill the insects crowding above the ship as well as the mass of pink, wriggling grubs packed inside it.

But now he could not see at all. He felt with his feet for the Deedee gun, then cried out suddenly as his face armour was holed. He took it on the cheek, luckily. With his hand pressed tightly against his eyes—the plastic was worn paper thin in that area—he groped forward. Through the gauntlet protecting his face he felt the attackers concentrating on the back of his hand. There was another stab at his neck. Something tore at his ear. Then his gauntlet was holed and he could not keep his hand against his face anymore.

Where was the Deedee gun? It was only a matter of time now, of seconds . . .

The Lieutenant's eyes had escaped but the nerve controlling one of his eye-lids had been damaged—he wore a perpetual, knowing wink that was almost a leer. That, together with his torn, cream-smearred face and his white, skinny body made MacFall think of an outrageous cross between Chevalier, Frankenstein and . . . well, he didn't know what.

They had stripped to drill shorts and boots, and the breeze which had sprung up at dusk was sheer heaven. Nolan had left his heavy coveralls behind, but MacFall carried his over his arm—they were Army issue and he just might be charged for them if they weren't handed in, despite their uselessness now.

"That explains why the ship wasn't destroyed," Nolan said as they retraced their steps to Base. "And why that first swarm of Bugs attacked so viciously—they were intent on protecting their young." He still sounded dazed by the whole business. "And Sergeant," he went on enthusiastically, "from close inspection I'm convinced that their first choice of food supply is other, smaller insects, though they can live on any warm-blooded creature as well. Think what this means! They could, for instance, exterminate the tsetse fly for us, and the other insects which keep us from developing large areas of the planet. You'll see, this is going to benefit both sides, eventually."

MacFall grunted, then thinking that perhaps something more enthusiastic was called for, said, "Peace, ain't it wonderful!" Looking over his shoulder he wondered suddenly whether the Bugs engaged in escorting them back to Base were naturally luminous or did they carry the Bug equivalent of a flash-lamp. The effect was pretty, anyway.

"For a while it was touch and go," the Lieutenant was babbling on. "After they stopped attacking me suddenly and I sat up, it still seemed to be in the balance. They were clustered around our plastic counters and that female, obviously interested but quite definitely hostile to us even then. What made them change their minds, decide on peace . . .?"

MacFall knew what, but he wasn't telling. He remembered that pause in the Bug attack all too clearly, and he had known somehow that the Bugs were undecided about them. MacFall had taken off his now useless helmet to see better, and among other things he saw the dozen or so Bugs which he had flailed to the ground with Nolan's discarded helmet. They had been waving their legs weakly and only three of them looked dead. MacFall—call it hunch, intuition or whatever—had done exactly the right thing. He had taken off his coveralls, rolled up his sleeve, then carefully lifted each weakly struggling Bug between finger and thumb and placed it on his arm.

The bites hadn't hurt at all, and a few drops of human blood had worked wonders for some of them.

If the Lieutenant ever discovered what he had done he would probably start agitating for a medal for the Sergeant. But MacFall was not going to tell him. A medal was all right, of course, but MacFall did not think that he could ever face his men again if they were to find out that he was blood brother to a swarm of Bugs . . .

James White

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BOOK REVIEWS

Perhaps one of the most overworked phrases used in the publicity of such books as find themselves under review for this column is "Tale (or Novel) of Imagination." Since every item of fiction is, to a greater or lesser degree, imaginative, I often wonder what indefinable (despite innumerable attempts at definition by well-meaning *aficionados*) attribute categorizes a work of fiction under the latitudinous label of "imaginative fiction" where the obvious intent is to convey one of the accepted sub-divisions such as "science-fiction," "fantasy," "weird," "Wellsian (or Verne-tradition," whatever either of these is deemed to indicate considering the varied output of the two authors).

This thought is prompted by the wonderful miscellany offered by this month's selection of books, but one need look no further than that writer's friend and indispensable guide, Roget's Thesaurus, wherein Class 4, Div. 1, Section 7, No. 515 lists a co-relation of words and phrases sufficient to indicate what one may expect in this *genre*, and to justify my own indiscriminate tastes in this wide field. At the same time an acquired discrimination in this varied reading (leading, one hopes, in the correct direction), constantly on the alert for the elusive quality of literary excellence no less important in this type of book than in any other fiction, tends to connect definition and achievement in one or two preferred authors. Working on these cross-references I came up immediately with one name—John Wyndham. On the strength of three leisurely-spaced novels amid a host of short stories, which have spanned most of the synonyms old Roget ever thought of, Wyndham is a name to command attention and respect. It is a pleasure to meet him again in two of the latest books.

His second collection of short stories **The Seeds Of Time** (Michael Joseph, 12/6d) shows an experimental and lively imagination at its best, dealing with such varied themes as an unexpected aspect of time-travel in "Chronoclasm," a gentle picture of Mars ("Time to Rest"), the *multum in parvo* irony of "Meteor," sudden horror in space

("Survival"), and delightful revels in the problems of time-touring ("Pawley's Peepholes"). "Opposite Number" concerns a co-existent infinity of worlds, and a grim game of mind-transference across the millenniums is played out in "Pillar to Post." The obliquity of a spaceman out Jupiter way reaps its just reward in "Dumb Martian," while a perfect contrast is provided by the last two stories between the discomfiting humour of "Compassion Circuit" and the compassionate tenderness of "Wild Flower," symbolising a defiance of our present-day Moloch. Wyndham writes with a gentle, yet penetrating, awareness of most human foibles, and combines a happy inventiveness of ideas with a smoothness of style and realistic characterisation. Altogether a satisfying book, and even though some of the stories may be familiar from your *New Worlds* reading, it is one to buy and cherish.

In **Sometime, Never**—three Tales of the Imagination (and never was this word more gratefully seized upon by a blurb writer, I am sure!) published by Eyre & Spottiswoode at 12/6d, Mr. Wyndham joins the exalted company of William Golding and Mervyn Peake, two masters of the macabre and *fantastique*, and unfortunately comes off third best, although I feel the fall is from his own high standard. "Consider Her Ways" is ingenious enough in its construction and, in his usual elegant style, tells of a future world in which all the males of the human species have died off leaving an ordered matriarchy which owes its survival to the "considered ways" of the ant-nest's social structure. Viewed through the eyes of a justifiably disturbed present-day miss, her perturbation is contagious but the effect is lost somewhat in the story's discursiveness. By comparison, William Golding sets a cracking pace in "Envoy Extraordinary," a tale of a barbarian genius setting the court of a Caesar on its heels with some premature inventions, the results of which sparkle some deliciously funny passages. Mervyn Peake's contribution "Boy in Darkness" successfully recaptures the miasma of dreamlike horror which enveloped his novels *Titus Groane* and *Gormenghast*. Indeed, the Boy is the young Titus escaping his castle realm into a nightmare adventure which translates the idea of Wells' "Dr. Moreau" into a vision of a frightening other world which only Peake could conjure up. All three of these original stories are, of course, impeccably written and deserve serious attention.

In **The Trembling Tower** by Claude Yelnick (Museum Press, 10/6d) I found a rather odd science-fiction novel translated from the original French. The locale is most unusual—a lonely lighthouse off the French coast, where the dead body of one of the keepers is found together with a journal kept by his companion who has completely

disappeared. In essence this is a scientific mystery novel and a most ingenious one at that. The atmosphere is authentic, and the matter-of-fact account of the journal's author is realistically conveyed in direct contrast to the fantastic theories of vibrational, other-dimensional entities (a theme seldom used these days) and its uneasy ending. It is very readable (and, I assume, remarkably well translated) and has a lot of the holding qualities of a good detective novel.

The unsophisticated, action-only, type of science fiction is provided in the last two books. William F. Temple's **Martin Magnus On Mars** (Muller, 9/6d) is the third adventure of his solar whizz-about, and those who left this brash but likeable interplanetary trouble-shooter on the planet Venus will find him still running into desperate escapades there, then rapidly shifting to Mars and back again, all the threads in this series being neatly tied up at the end. Remarkably well-done for the teen-age level at which it is slanted.

On the other hand, Philip Wilding's second science-fiction novel **Shadow Over The Earth** (Hennel Locke, 9/6d) regretfully continues in the same formula as his *Spaceflight—Venus*, bringing to mind strongly the type of story a "slick" magazine for women would serialise if the possibility could occur of its readers knowing enough space-opera jargon to swallow their own stock characters in a slam-bang adventure of an invading cosmic wanderer.

The only non-fiction book claiming attention this month is a "must" for all admirers of Chesley Bonestell's work—**The Exploration Of Mars** (Sidgwick & Jackson, 25/-)—and is a worthwhile companion volume to the earlier *Conquest Of Space*. The text of the Mars book is by Willy Ley and Wernher von Braun and covers all the known aspects of the Red Planet and the problems to be faced in getting to the planet—this latter by means of a hypothetical expedition.

But it is the beautiful colour work of Bonestell that will hold the reader—16 plates of which eight are fantastically beautiful and look like real photographs—and for these alone the book is worth the price. Add the reference work and information by Ley and von Braun and you have one more link in the history of space-flight.

Leslie Flood

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